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UNIVERSITY OF ALBERTA

PSYCHOLOGICAL TYPES: IMPLICATIONS FOR TEACHER-STUDENT RELATIONSHIPS

BY

WILLIAM B. MORRISON

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

IN

COUNSELLING PSYCHOLOGY

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

EDMONTON, ALBERTA

FALL 1994

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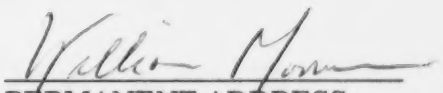

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled "Psychological Types: Implications for Teacher-Student Relationships" submitted by William B. Morrison in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Counselling Psychology.

Dr. George Fitzsimmons

Dr. Harvey Zingle

Dr. Gretchen Hess

Dr. Joe Fris

Dr. Larry Beauchamp

Dr. Tad Guzie

Date: Sept 13/94

Dedication

This thesis is dedicated to my wife Louise, my children, my parents, and my wife's parents, who have stood by me in such a supportive manner through the years of intensive study and research. Their faith and understanding have enabled me to pursue experiences which I pray to God may prove helpful and enriching to the many with whom I shall be privileged to work.

Abstract

The purpose of this research was to examine whether greater ease of establishing rapport as perceived by both teachers and students is associated with a high degree of personality type congruence. The applications of Jungian theory using the Myers-Briggs Type Indicator (MBTI) and Holland's constructs employing the Self-Directed Search (SDS) were considered in this research. In view of the developmental changes associated with early adolescence, a pre-research reliability study was undertaken to assess the appropriateness of the personality instruments to be used in this investigation. This pre-study involved 88 junior high students (gr. 8,9) from an urban center in western Canada. The time interval between test and retest varied from three to six weeks. Test-retest reliabilities for the MBTI (.50-.85) and SDS (.75 to .91) were deemed adequate to undertake the proposed research. The participants of the research study included 47 junior high school teachers and 290 students enrolled in regular grade 8 and 9 programming from eight different junior high schools of an urban center in western Canada. Teachers and students completed both personality instruments and indicated their perceptions regarding the degree of EER within their respective relationships with one another. Perceptions of EER were determined using the Teacher-Student Relationship Device (TSRD), a brief description of EER which incorporates eight short statements. Results were initially arranged according to teachers' perceptions of high and low EER. In addition, similarity scores for each student-teacher pair were computed and

organized according to teacher and student perceptions of high and low EER. One-Way Analysis of Variance and Chi-Square analysis were employed to determine differences among high and low EER groups. Holland's scales generally lent support for the congruence hypothesis whereas Jungian scales tended to provide more descriptive information regarding personality characteristics and relationship motivations of specific preference combinations. The overall results of this research provided the basis for formulation of a tentative theory regarding various personality factors that appear to affect the ease by which individuals establish rapport. These factors include strength of personal motivation, degree of commonality in relationships, admiration for opposite preferences and gifts, and relationship awareness.

Acknowledgments

The completion of this thesis brings closure to my academic career at the University of Alberta. My pursuit of study has led me into a wide variety of learning experiences and extraordinary situations. In each case, relationships have been rich and meaningful.

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List of Symbols

MBTI	-	Myers-Briggs Type Indicator
SDS	-	Self-Directed Search
TSRD	-	Teacher-Student Relationship Device
VPI	-	Vocational Preference Inventory
MMTIC	-	Murphy-Meisgeier Type Indicator for Children
ANOVA	-	One-Way Analysis of Variance
EER	-	Ease of Establishing Rapport

Jungian Preferences

E	-	Extraversion
I	-	Introversion
S	-	Sensing
N	-	Intuition
T	-	Thinking
F	-	Feeling
J	-	Judgment
P	-	Perception

Holland Codes

R	-	Realistic
I	-	Investigative
A	-	Artistic
S		Social
E	-	Enterprising
C	-	Conventional

CHAPTER I

Introduction

Problem

Within the school setting, teachers and students spend extended periods of time interacting together. The desired outcome of these relationships is the acquisition of educational goals. Hence, the development and maintenance of positive working relationships between teacher and student become important considerations in the learning process.

Various studies have considered the nature of teacher-student interaction with respect to a variety of academic issues such as student motivation, socialization, at-risk students, and academic success. Underlying these and other major issues related to quality of relationships is the ease by which individuals are able to establish rapport (EER). The ease by which relationships are established would likely affect subsequent interactions, future direction, and collaborative endeavours of individuals involved.

Various theories of personality provide rationales for how individuals relate and interact. Within such theories, the concept of congruence of personality-type yields implications for the ease by which individuals establish rapport. In other words, it is hypothesized that the greater the similarity in personal preference among individuals, the higher the level of ease by which rapport may be established. Two theories of personality embracing these ideas are

Jung's theory of Psychological Types and Holland's Typology of Vocational Preference. Both theories purport to have implications for relationships within educational settings. Given the apparent importance of teacher-student relationship on student development, the investigation of theoretical personality types and individual perceptions of relationship ease could lend important educational insights.

Purpose

The primary purpose of this study is to address the following research questions: "Is greater ease of establishing rapport (EER) in teacher-student relationships, as perceived by both teachers and students, associated with a high degree of congruence with respect to individuals' personality types?", and conversely, "Is a lesser degree of this quality of relationship related to reported differences in teacher-student types?" As a result of this research other potential factors contributing to EER also became apparent. These included strength of personal motivation, admiration of opposite preferences, and relationship awareness.

To address the preceding questions, the researcher has employed two personality instruments; one incorporating Jung's constructs, and a second utilizing Holland's typology concepts. These instruments are respectively: The Myers-Briggs Type Indicator® (MBTI), and The Self-Directed Search (SDS). In addition, the researcher obtained teacher and student perceptions regarding the degree of ease of establishing

rapport (EER) within their particular relationships. The students involved in this study were adolescents in grades 8 and 9 enrolled in regular school programming.

An important consideration in carrying out this study involved the appropriateness of the selected instruments for both students and teachers. Many research investigations have made use of the previously-cited instruments with adult populations. However, somewhat fewer research studies are noted using these instruments with students at the junior high school level. Given the developmental changes of early adolescent youth, the question of test reliability had to be addressed.

A Pre-Research project was carried out. This entailed a test-retest reliability study with students in grades 8 and 9. Following this preliminary study, the major research investigation ensued.

CHAPTER II

Review of Related Literature

Essential Relationships

Within any social environment or in undertaking any goal involving interactions with others, the relationships individuals establish with one another impact both the process and outcomes of their endeavours. From Rogers' (1987) perspective, quality of personal encounter is the most important factor influencing personal growth and change. Within the educational setting, teachers and students spend numerous hours engaged in a relationship intended to facilitate student acquisition of academic knowledge and skills. Various studies and applications of educational theory have explored and considered the nature of teacher-student involvement in relation to such school issues and activities as stimulation and maintenance of student effort, attendance and potential school dropout, behavioural and academic expectations, as well as student self-concept (Cashion & MacIver, 1988; Glasser, 1990; Miles, 1988).

In his discussion of school relationships, Galbo (1987) asserts that the quality of relationship that develops between teacher and student has often been considered important as a result of its potential influence on classroom climate. However, insufficient attention has been given to the possible impact of school relationships on overall student learning.

> We tend to give only cursory attention to the importance of human relationships and subsequently may miss an important opportunity to enhance learning. That aspect of school life (the relationship) which potentially makes a considerable difference in the quantity and quality of learning which occurs in schools has not been studied exclusively and consequently is inadequately understood. (Galbo, 1987, p. 97)

Adolescence, Relationships, and Congruence

According to Galbo (1987), teacher-student relationships may have important educational implications, especially for adolescents. Adolescence is regarded as a period of transition between childhood and adulthood. Early stages of development involve children's becoming aware of self and others, their capabilities, and the roles they are able to play. In adolescence, as youth grow towards adulthood, the nature of relationships with adults and peers changes in their move towards developing a sense of personal identity. This stage of maturation is accompanied by increases in both the cognitive and physical areas. In addition, greater need for autonomy, more freedom from adult control, and increased peer affiliation are some aspects that characterize this stage of development (Hergenhahn, 1990; Webber, 1991).

According to Glasser (1986, 1991), teacher involvement with adolescent students is an essential aspect of a quality school. Establishing rapport involves meeting student identity-needs to belong

or "fit" and to feel valued. The means for meeting such needs is having an understanding of the "inner pictures" students possess; that is, what they consider to be of worth, what they enjoy doing, and what are their areas of interest and motivation. In essence, involvement in the context of the learning process entails being sensitive to students' personal preferences and needs, validating them in the process of structuring classroom learning and individual interactions. Hence, the congruence or "fit" between the needs and personal orientation of students, and the nature of social interactions and activities within the classroom would seem to be important considerations.

Eccles, Lord, and Midgley (1991), in their review of several investigations pertaining to junior high students, noted that at this age in schooling there was among some adolescents a decline in school grades, academic motivation, and in instances, school failure and subsequent dropout. They assert the notion that the lack of "fit" for some students to classroom situations may be a "plausible" explanation for downward spiralling. Since classroom activities are largely governed by teachers, the instructional teacher-student relationship becomes an important factor in meeting personal needs and influencing motivations of students.

As Sorensen (1989) contends, teacher-effectiveness is not related solely to competence in a particular content area, but also to an ability to understand the nature of the teacher-student relationship, and to use this knowledge to create a climate conducive to student learning.

She also emphasizes that initial interactions with students appear to be of considerable importance with respect to student perception of the instructional relationship. Similarly Hamilton-Obaid (1989), in her model for addressing student needs, stresses the necessity of establishing rapport as an initial step in working with and assisting adolescents in problem-solving.

Understanding Relationships: Psychological Types

With respect to teacher-student relationships and their relevance to adolescent functioning in the school setting, Galbo (1987) asserts the need for development of a theoretical base from which such relationships might be understood. In developing a model for understanding relationships, the notion of individual differences becomes an important consideration. The effectiveness of such a theory depends to a great extent on the insights it provides regarding individual differences, and how such awareness might be utilized in enhancing relationships. Two models that have received significant attention in this regard, and that have been applied in organizational settings are Jung's concept of psychological types and Holland's typology of vocational preferences (Meir, 1989; Murray, 1990; Spokane, 1985; Tinsley, 1992). In the following two sections these theories of psychological type are outlined, and implications with respect to type congruence and relationship development are elaborated.

Jung's Theory of Psychological Types

The underlying assumption of Jung's theory is that the apparently "random" variation in behaviour may be attributed to the differences in the way individuals perceive and make judgments in daily living (Myers & McCaulley, 1985). In his theory, Jung proposes two orientations or attitudes that individuals may take towards living. The first orientation, introversion, implies an inward focus with interest in the inner world of ideas and concepts. In contrast, the attitude of extraversion suggests attention drawn to the external world, with interests directed towards people and happenings (Hergenhahn, 1990).

In addition to general orientations, Jung also conceptualizes four functions of thought by which people perceive and make judgments. Each function exhibits a different role in directing conscious mental activity, with each one leading towards a different goal:

> Sensation (S) seeks the fullest possible experience of what is immediate and real.
>
> Intuition (N) seeks the furthest reaches of the possible.
>
> Thinking (T) seeks rational order and plans according to impersonal logic.
>
> Feeling (F) seeks rational order according to harmony among subjective values. (Myers & McCaulley, 1985, p. 13)

Jung refers to the judgment processes of Feeling and Thinking as "rational functions" in that these mental activities involve the making

of evaluations and decisions in accordance with the law of reason. It is his belief that the Feeling and Thinking functions are polar opposites. As Jung (1936) writes, "in the same way, thinking is opposed to feeling, because thinking should not be influenced or deflected from its purpose by feeling values, just as feeling is usually vitiated by too much reflection" (p. 554).

The remaining two perceptive processes, Sensation and Intuition are called "irrational functions" because these processes operate optimally when they are not limited by evaluation or rational thought. As with the rational functions, Sensation and Intuition are regarded by Jung as polar opposites (Myers & McCaulley, 1985).

According to Jung's theory, every individual possesses both attitudes and all four functions; however, Jung asserts that one attitude and one function would become more developed and dominant within a person's personality. By considering the two attitudes and four functions, Jung envisions eight different types of individuals (Hergenhahn, 1990).

Elaboration of Jung's Theory

Utilizing Jung's ideas regarding psychological type, Isabel Myers and her mother Katharine Briggs extend Jung's theory by adding a fourth dimension which they view as being implicit in his writings, but not included in his personality descriptions. This additional dimension focusses on the individual's orientation or attitude towards the outer world. For example, if a perceptive process of Sensing or Intuition

were utilized in relating to one's outer world, this would be viewed as a demonstration of a Perceiving attitude. An individual with such a preference would desire to remain open to life experience, and be flexible and adaptable to changing circumstances. In contrast, a person who utilizes a judgment process of either Thinking or Feeling in dealing with the outer world would be considered as having a Judging attitude. Such a person would demonstrate a preference for having things decided and organized, preferring to manage life's affairs according to a plan or system (Lawrence, 1993).

With the extension of Jung's theory to include four dimensions, each one encompassing a pair of opposing preferences, the possibility of 16 personality types emerges. The elaboration of Jung's theory places increased emphasis on type dynamics, this concept being defined as the interaction of preferences within individual types. For each of Myers and Briggs types, it is assumed that two of the four functions will be of greater interest to an individual, and thus will receive more attention and become more consciously developed. From these two preferred functions, the most conscious and developed function is recognized as the governing force or dominant function within an individual's personality. The next preferred function is referred to as the auxiliary function. It is assumed that this secondary preference provides balance within the individual. For example, if a person's dominant is a Judging function (Feeling or Thinking), then the auxiliary would be a Perceiving function (Sensing or Intuition),

providing a balance between gathering information and decision-making. In addition, type theory suggests that the dominant function is used mainly in the preferred attitude of either extraversion or introversion. On the other hand, the auxiliary is assumed to be used in the opposite attitude to the dominant, thereby lending balance to both extraversion and introversion attitudes by providing the individual with opportunity to develop skills in interacting in both the outer and inner worlds (Kirby, 1992).

Addition of the Judging-Perceiving (JP) dimension to type theory permits identification of both dominant and auxiliary functions within each of the Myers-Briggs' 16 personality types. As previously discussed, the JP dimension suggests which function is used in the external world. For extraverts, this dimension indicates their dominant function; whereas for introverts, the function used in the outer world is their auxiliary. In both instances the dominant function tends to be used in their preferred attitude and the auxiliary in their non-preferred attitude (Kirby, 1992).

Temperament Theory

Another way to conceptualize Jungian preferences is to consider Keirsey and Bates' (1978) temperament theory. According to them, "Temperament determines behavior because behavior is the instrument for getting us what we must have, satisfying our desire for that one thing we live for" (p. 30). They propose four temperaments encompassing different preference combinations. These are the

Dionysian (SP), Epimethean (SJ), Promethean (NT), and Appolonian (NF) temperaments. In discussing temperament theory, Golay (1982) redefines the various temperament styles to reflect differences in learning patterns. For example, SP and SJ are referred to respectively as actual-spontaneous and actual-routine learners; NF and NT, as conceptual-global and conceptual-specific learners. The 16 Jungian types, as envisioned by Myers and Briggs, may be organized under these four temperament types as outlined in Table 1 (p. 13).

Applying Type Theory to Teaching

Both Myers and Briggs, in their elaboration of Jung's work, view his theory as beneficial both in terms of understanding human nature and dealing more effectively with difficulties in daily living. Their desire to facilitate the application of Jung's theory led them to undertake the development of a type indicator. Initial work on the indicator began following the outbreak of World War II. Early forms of the indicator were developed in the 1940s and by the late 1950s the Myers-Briggs Type Indicator (MBTI) was published and utilized as a research instrument. In 1975, Consulting Psychologist Press took over publication of the MBTI, extending its application to the areas of counselling, business and education (Myers & McCaulley, 1985).

The development of the MBTI has facilitated investigations of type theory concepts in the area of education. From a type perspective, the way in which teachers prefer to utilize perception and judgment is an important consideration in their relationships with students.

Table 1

Keirsey Temperaments and Psychological Types

EPIMETHEUS	DIONYSUS	APOLLO	PROMETHEUS
SJ	SP	NF	NT
ES<u>T</u>J	E<u>S</u>TP	E<u>N</u>FP	E<u>N</u>TP
I<u>S</u>TJ	IS<u>T</u>P	IN<u>F</u>P	IN<u>T</u>P
I<u>S</u>FJ	IS<u>F</u>P	I<u>N</u>FJ	I<u>N</u>TJ
ES<u>F</u>J	E<u>S</u>FP	EN<u>F</u>J	EN<u>T</u>J

- Dominant function is underlined.
- Auxiliary function is the remaining non-underlined middle preference.

Lawrence (1993) asserts that type preference influences not only what teachers teach, but also how they prefer to teach. In one study involving in-depth interviews with teachers regarding their approach to their profession, descriptions of various aspects of their experience when sorted by type rendered insights about teaching consistent with type theory. The descriptions of experience in these interviews provided information regarding apparent type differences in such areas as teacher perception of role, approaches to planning, method of teaching and student evaluation (Myers & McCaulley, 1985). A similar more recent study dealing with teacher perceptions of their experience also reported links between teachers' stated goals, methods, and type preferences (Provost, Carson, & Beidler, 1987).

In a study by DeNovellis and Lawrence (1983), teachers' classroom behaviours were rated by observers who were unaware of teacher type. Reported correlations between various teacher behaviour and type preferences were small but significant. These noted behaviours are consistent with type theory (e.g., Ns permitted more activity to go on in the room, Fs were rated as giving more positive verbal and nonverbal feedback).

In addition to the preceding investigations, an exploratory study involving teacher perceptions of the seriousness of student misbehaviour noted significant differences in perceptions of various preference combinations. For example, Sensing, Thinking, and Judging teachers tended to rate student misbehaviours as more

serious. In contrast, a significantly greater proportion of ENFP was overrepresented in the lower scoring group, suggesting lower levels of evaluation with respect to the seriousness of various student misbehaviours (Miner & Hyman, 1988). The results of another study by Smith (1993) pointed to differences in teacher comments in the grading of student papers. Teachers indicating a Thinking preference tended to give directive statements aimed at problem-solving. In contrast, those exhibiting a Feeling preference appeared to use a more tentative approach framing corrective comments by suggestions.

According to Myers and McCaulley (1985), the four most common teacher types at the middle and junior high school level are ISFJ (12.2%), ISTJ (11.7%), ESFJ (11.5%), and ENFP (10.9%). Three of these types share the SJ preference combination. According to Keirsey and Bates (1984), the SJ temperament, based on reported research, makes up approximately 56% of the school personnel. Therefore, this temperament would appear to have considerable influence over the direction taken in many educational settings. According to them, SJ educators stress the importance of the "basics" and "fundamentals." Keirsey (1991) describes SJ types as routinized, thorough, consistent, and stable. In their research, Rytting, Ware, and Olszewski (1993) noted that SJs tended to prefer traditional values such as commitment and mutual support, and perceive themselves as carrying out a parental role in relation to others.

In support of the research linking type preferences with differences in teaching behaviour, Murphy (1987) notes that within professional development work with teachers, differences in teaching style become especially evident when teachers of varying preferences are asked to prepare lessons on similar themes. She asserts that since lessons are usually presented in the style of the teacher, it is essential that teachers become sensitive to the way students in their classroom respond to their style of presentation.

Student Functioning and Type Concepts

The response of students to various learning situations has also been considered with respect to type concepts. In Lawrence's (1984, 1993) discussion of learning-style research, he presents a comprehensive overview of published research linking type preference to learning, areas of student interest, and academic functioning. Table 2 (p. 17) provides examples of learning preferences associated with each dimension of the MBTI. Other summary tables in his review highlight learning preferences related to various combinations of the MBTI functions and attitudes.

Myers and McCaulley (1985), in their review of research, suggest that preferences I, N and J appear to contribute most to overall scholastic success. It is theorized that academic achievement is facilitated by capacity to deal with ideas and concepts (I), and ability to deal with abstractions, symbols and theory (N). Tendency to set goals

Table 2

Learning Preferences Associated with Dimensions of MBTI Type

Extraversion - talking, discussion - psychomotor activity - working with a group	**Introversion** - reading/verbal reasoning - time for internal processing - working individually
Sensing - tasks that call for carefulness, thoroughness and soundness of understanding - going step-by-step - tasks that call for observing specifics - tasks that call for memory of facts - practical interests	**Intuition** - tasks that call for quickness of insight and in seeing relationships - finding own way in new material - tasks that call for grasping general concepts - tasks that call for imagination - intellectual interests (independent of intelligence) - reading
Thinking - logical organization of teacher - objective material to study	**Feeling** - personal rapport with teacher - learning through personal relationships
Judging - work in steady, orderly way - formalized instruction - prescribed tasks - drive toward closure, completion	**Perceiving** - work in flexible way, follow impulses - informal problem solving - discovery tasks - managing emerging problems

and deadlines for assigned work also appears to contribute to academic success (J).

The recent development of the Murphy-Meisgeier Type Indicator for Children (MMTIC) (Meisgeier & Murphy, 1987) has facilitated investigation of type theory and student functioning with children in grades 2 through 8. Several studies using the MMTIC reported apparent relationships between type preferences and academic achievement, type differences in student populations in various educational programs, and the relationship of obtained preference results to students' self-esteem. The outcomes of these studies provide some support for the formulations put forward by Myers and McCaulley (Fourqurean, Meisgeier, Swank, & Murphy; Tobacyk, Hearn, & Wells; Tobacyk, Wells, & Springer, 1988).

According to Lawrence (1993), cognitive style as outlined by type theory influences to a great extent, not only what students will attend to in the learning environment, but also the "learning tools" they will prefer to use in certain situations. He also asserts that specific preferences, indicating patterns of attitudes and interests, will lead individuals to search out learning situations compatible with their cognitive style.

Teacher-Student Interaction

From a type theory perspective, the individual preferences of both teacher and student would be important considerations in examining the nature of their relationship. As Bargar and Hoover (1984) write:

> Few acts in the art of teaching seem to be free from engaging in preferences of psychological type. In general, there is in every classroom a four-way interaction among psychological type of the student, the psychological type of the teacher, the demands of the particular instructional alternative in use and the logical form of the subject matter discipline or field being studied. (p. 58)

With respect to the potential differences that might occur between teacher-student preferred means for adapting and working in the classroom environment, Hart (1982) poses this question: "What happens when the predispositions of the student are pitted against the treatment of a curriculum or a teacher?" (p. 801). Another way to formulate this question might be to ask, "What is the impact on the teacher-student relationship when there are differences in type preferences between teacher and student?" Bargar and Hoover (1984), in addressing the question of differences in cognitive styles, suggest that misunderstandings are often greatest between individuals where preferred functions are opposites. From their perspective, students whose cognitive styles differ greatly from those of their teachers may experience some "confusion" with respect to teachers' approaches and their own natural styles. Since decisions regarding classroom expectations and structure are generally dictated by the teacher, varying degrees of incongruity in teacher-student style may result in students' doubting the value of their own approaches, decreasing in

their motivation and possibly even exhibiting resistance within the teacher-student relationships.

In Myers' (1980) discussion of human relations, she asserts that differences in type often account for differences in interests, values, and approaches to problem-solving among individuals. Such differences may serve to either ultimately enhance or potentially impede the development of positive working relationships between individuals. According to type theory, individuals whose personal preferences are the same have a greater possibility for mutually understanding one another and feeling understood. Individuals within such a relationship tend to find common ground, both in how they perceive specific situations and make decisions. On the other hand, Myers notes that in relationships in which differences exist in type preferences, it is important that individuals understand and value one another's differences. She also suggests that difficulties in communication among individuals who possess different type preferences may be particularly evident in situations in which both agreement and cooperation are essential in meeting personal or work goals.

> When two individuals interacting with one another are of similar type, there is a better chance of communication of ideas. Sensing types like facts; intuitives like possibilities; thinkers like logical principles; feeling types like the human angle. A good sound idea can be presented in any of these forms, but difficulties may be

> expected to occur if, say, the thinker attempts to force logical reasons upon a feeling type or possibilities upon the sensing people. (Lawrence, 1993, p. 84)

Although differences in type may pose more challenge to a relationship, it is such differences that make opposite types "mutually" useful to one another. By considering situations and ideas from different perspectives within relationships, individuals are provided with the opportunity, not only to achieve new insights, but also to make valued contributions as they work, interact, and live with others (Myers & McCaulley, 1985).

Investigating Type Preferences Within Relationships

Various studies have been undertaken to investigate aspects of relationships based on similarities and differences in type between individuals in these relationships. One study carried out at the university level (Kalsbeek, Rodgers, Marshall, Denny, & Nicholls, 1982) made student room assignments based on degrees of similarity in type. First year students who participated in the study completed the MBTI prior to their arrival at university. Students were then assigned rooms in the following manner: "pure suites" (all preferences in common), "dominant" (most preferred preference in common), "auxiliary" (second most preferred preference in common), "external" (process for dealing with the outer world in common), and "random" (maximum heterogeneity of personality types by random assignment). Towards the end of the school year, participants in the study

completed the University Residence Environment Scale (Moos & Gerst, 1974) to assess the social climate of student-living groups. Some of the scales of this instrument describe aspects of support, whereas other elements describe areas of challenge. Overall results supported the hypothesis that the greater the commonality in personality typology among roommates, the greater the sense of perceived support that would be reported in terms of their relationship. In addition, a study involving roommate relationships carried out by Carey, Hamilton, and Shanklin (1985) investigated communication style, similarity, and roommate satisfaction. In their study, an approach developed by Yeakley (1982) for computing "dyadic similarity" based on shared type-related preferences was utilized. The results of this investigation found modest but significant evidence supporting the view that dyads that show greater ease of communication would report greater relationship satisfaction. Yeakley's method for determining the degree of communication type congruence has been well-received since it takes into account the theoretical concept of type dynamics.

Schroeder and Jackson (1987), in their discussion of research pertaining to type preferences within relationships, present support for both type theory and the application of the MBTI. In their review, use of the MBTI is noted as a potential strategy for facilitating friendship patterns, supportive interactions, and a sense of community among individuals in educational settings. Although the preceding section highlights research carried out at the university level, these

investigations may provide a base from which to consider teacher-student relationships at the school level.

According to Meisgeier, Murphy, and Swank (1987), research in the area of psychological type has potential for providing insight into the nature of teacher-student relationships. Such insight may have implications for both understanding and enhancing the quality of the instructional relationships between teacher and student, thus maximizing student's opportunity to learn. Application of type concepts in teacher-training focussing on teacher-student relationships has been evaluated as being of benefit in terms of assisting student-teachers to understand individual differences and to increase their confidence in teaching (Boersma, Kienholz, Jevne, & Chapman, 1989). Reviews regarding the MBTI note the wide use of type theory and its positive reception in a variety of settings. However, the need to provide research evidence for its ongoing application is also emphasized (Carlson, 1989; Murray, 1990). Hence, further research would appear to be warranted regarding the possible implications of type theory for the teacher-student relationship within the educational setting.

Holland's Theory of Vocational Types

A second model involving theoretical types that has received considerable attention in organizational settings, and that has been the basis for a wide range of research investigations is Holland's typology of vocational preferences (Meir, 1989; Spokane, 1985; Tinsley,

1992). In his theory, Holland (1973) presents six personality types which he considers as resulting from both cultural and personal influences. Holland views each personality type as an "ideal" or theoretical model against which individuals may make comparisons and estimate their resemblance to each personality category. He defines his six personality types as Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Each type encompasses a specific set of interests, competencies, and dispositions.

The following presents a brief summary of some of the characteristics associated with each of Holland's (1985) six personality types.

* The Realistic type likes realistic jobs such as automobile mechanic, aircraft controller, surveyor, farmer, electrician. Has mechanical abilities. Is described as: Conforming, Frank, Genuine, Hardheaded, Persistent, Natural, Thrifty.
* The Investigative type likes investigative jobs such as biologist, chemist, physicist, anthropologist, geologist, medical technologist. Has mathematical and scientific ability. Is described as: Analytical, Cautious, Curious, Independent, Introspective, Precise, Rational.
* The Artistic type likes jobs such as composer, musician, stage director, writer, interior decorator, actor/actress. Has artistic abilities as writing, music, or art. Is described as: Expressive, Idealistic, Imaginative, Intuitive, Open, Original, Sensitive.

* The Social type likes social jobs such as teacher, religious worker, counsellor, clinical psychologist, speech therapist. Has social skills and talents. Is described as: Cooperative, Empathic, Helpful, Patient, Tactful, Responsible, Warm.
* The Enterprising type likes enterprising jobs such as sales person, manager, business executive, television producer, sports promoter, buyer. Has leadership and speaking skills. Is described as: Adventurous, Ambitious, Energetic, Optimistic, Self-confident, Talkative, Extraverted.
* The Conventional type likes conventional jobs such as bookkeeper, stenographer, financial analyst, banker, cost estimator, tax expert. Has clerical and arithmetic ability. Is described as: Careful, Conscientious, Methodical, Orderly, Conforming, Efficient, Practical.

Person-Environment Congruence

In conjunction with the six personality types, Holland (1973) also envisions the existence of six environmental models that parallel his six personality types. According to Holland, each environmental model "is a situation or atmosphere created by people who dominate a given environment" (p. 27). Hence, the descriptions associated with the various personality types are also reflective of the nature of their related environments. In Holland's theory, the common constructs that are presented between personality and environment provide a

basis from which to examine the outcomes of pairing specific types with differing environments.

Holland describes a person's relationship to the environment in terms of degrees of congruence or compatibility. In order to illustrate the degree of congruence, he arranges the six categories of personality type and environment on a Hexagonal Model (Figure 1, p. 27). In employing this Model, it is assumed that the shorter the distance between a person's type and environment category, the greater the degree of existing congruence. For example, a person resembling a Social type in a matching social environment would represent the greatest degree of congruence.

Lesser degrees of congruence can also be obtained by considering the placement of personality and environment categories as they appear in adjacent (e.g., Social/Enterprising), intermediate (e.g., Social/Investigative), and opposite (Social/Realistic) positions. The use of the Hexagonal Model provides four levels of congruence. Since both individuals and situations may be characterized by combinations of Holland's (1973) categories, two and three-letter codes (e.g., ES; ESA - Enterprising, Social; Enterprising, Social, Artistic) are often employed in formulating person and environment descriptions. Given the possibility of a variety of personality and environment patterns, additional levels of congruence may also be calculated and employed in examining person-environment interactions.

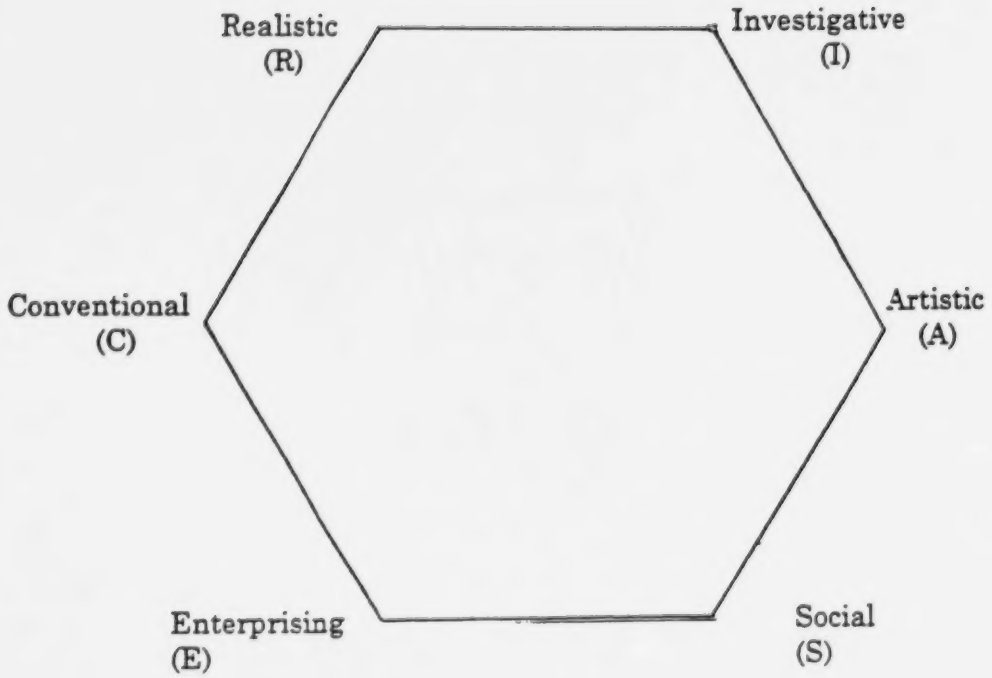


Figure 1

Hexagonal Model Representing Interrelationships Among Holland's Six Categories for Personality Types

According to Holland (1985), in situations where personality and environmental patterns are similar, individuals are encouraged to engage in activities and develop competencies which are consistent with their preferences and values. A high degree of compatibility between environment and personality type is both reinforcing and satisfying for individuals; thus, they tend to seek out such experiences that will permit them to exercise their ability, as well as express their attitudes. In contrast, incongruent interactions between environment and personality present individuals with experiences that appear to conflict or challenge preferred ways of interacting with the world. For example, Conventional types in an artistic environment might encounter unstructured activities and schedules in contrast to their preference for structured and organized plans. Similarly, many of the values held by Conventional types such as conformity, orderliness, and practicality would not likely be appreciated or encouraged in an artistic environment. In such an environment, originality, independence and flexibility would be more highly valued. From Holland's perspective, individuals experiencing such incongruity would likely become dissatisfied, have difficulty in coping and eventually decide to leave their present environment.

Congruence Research

The concept of person-environment congruence has become an area of interest and focus for investigation. Instruments such as the Vocational Preference Inventory (VPI) (Holland, 1973), the Self-

Directed Search (SDS) (Holland, 1985), and the Strong Interest Inventory (Campbell & Hanson, 1985) have been used in furthering research in this area. In Spokane's (1985) review of research on person-environment congruence employing Holland's theory, he states that correlational studies generally appear to show positive relationships between congruence and such areas as academic performance, persistence, and satisfaction. More recent studies also lend support to Holland's hypothesis regarding person-environment congruence (Henry, 1989; Meir & Navon, 1992; Smart, Elton, & McLaughlin, 1986). In addition, other research has examined student interest and involvement in various activities and has added support for Holland's theoretical ideas regarding congruence (Johnson, 1987; Sergent & Sedlacek, 1990). Most of the studies summarized here were carried out in college settings with fewer using high school samples.

Teacher-Student Relationship Congruence

In the preceding research, the nature of specific environments was usually determined by the composition of the most prevalent types in those environments. However, Holland (1973) notes that in addition to the distribution of types within the environment, the influence and power of specific types for directing activities in the environment are also important considerations. For instance, in a family business, a parent and son or daughter may each have a "distinct" and "major" influence on the nature of activities carried out by other types within this environment. Therefore within friendships, therapeutic

relationships, or teacher-student interactions, one individual may play a greater role in determining the nature of both environmental "opportunities" and "demands" within a given relationship.

With regards to educational settings, Holland (1985) views congruence as an important concept in considering the outcome of teacher-student relationships. Students whose personality patterns are similar to those of teachers may respond more positively and find greater satisfaction in their relationships. Conversely, dissatisfaction, decreased motivation for school activity and behaviour difficulties may relate in part to apparent differences in teacher-student personality types.

According to Holland (1985), teachers are generally S types and students who express dissatisfaction with school and may eventually drop out are often R in type (opposites in the Hexagonal Model). Gade, Fuqua, and Hurlburt (1988) report in their study that Aboriginal students with I and S personality types tended to be associated with higher degrees of perceived school satisfaction than did R types. The same researchers, in a more recent study which examined student types and attrition, noted that R was significantly overrepresented for both male and female students who decided to leave school. These researchers contend that Holland's theory of personality types may be of benefit, not only for understanding student functioning and individual needs, but also for developing and implementing specific programs and interventions (Gade, Hurlburt, & Fuqua, 1992).

Educational Implications of Holland's Constructs

Henry (1989) suggests that Holland's theory may be of particular benefit in exploring student interests and preferences, and how these impact decision-making. He also notes the potential value of the Hexagon Model for considering the ease of personal adjustment individuals may experience in varying contexts. With respect to the teacher-student relationship, such awareness of student functioning may render insights useful, not only in maintaining student motivation, but also in assuring academic success.

In view of the preceding, Holland's constructs may have implications for career development as well as relevance for such educational issues as program-planning, adapting instructional strategies, and structuring classroom experiences. Hence, continued research with an educational focus appears to be warranted.

Ease of Establishing Rapport and Type Theory

In the previous sections outlining Jung's and Holland's constructs, the concept of type congruence or similarity is considered with respect to relationship outcomes and dynamics. The term congruence implies similarity in areas of interest and having common beliefs of what is of value and importance. From a classroom perspective, congruence may be associated with common styles of gathering information and approach to problem-solving. Individuals sharing like-preferences may possess similar orientations and have

common goals for interacting with others (Adler & Towne, 1990; Baron & Byrne, 1991; Slavin, 1988).

Further to this, the degree of type congruence implies the extent of "fit" among individuals' personal preferences. From a type theory perspective, sharing a high degree of congruence facilitates mutual understanding and support, as well as cooperative efforts (Owens, 1991). In view of this, it is conceivable that persons who share a high degree of type congruence would naturally experience greater ease in spontaneous interaction and communication. Based on the preceding, ease of establishing rapport (EER) might be conceptualized in the following descriptive statements:

- finding common ground in areas of interest
- having similar views of what is important and of value
- experiencing ease and accuracy in communication
- agreeing and cooperating in reaching common goals
- having a sense of support within the relationship
- being understood and understanding one another
- having similar approaches in problem-solving and decision-making
- experiencing natural and spontaneous interaction

In considering EER, individuals might be invited to reflect upon their relationships in light of these descriptors. In turn, they might be asked to indicate whether specific relationships would be described as having a high or low level of EER.

As already alluded to, the initial stages of establishing rapport appear to be important considerations with respect to adolescents, and have implications regarding their school functioning. Consequently, the ease with which teachers and students establish rapport becomes an area worthy of research. Employing type concepts provides a means for investigating the ease of establishing rapport (EER) as it relates to teachers' reported preferences and apparent styles. The focal questions for this research study then become: "Is greater EER in teacher-student relationships, as perceived by both teachers and students, associated with a high degree of congruence with respect to individuals' personality types?" and conversely, "Is a lesser degree of this quality of relationship related to reported differences in teacher-student types?"

Research Considerations

An important consideration in addressing such research questions is the appropriateness of the measures employed to report teacher, and in particular student preferences. Myers and McCaulley (1985), and Holland (1985) report that older samples and higher levels of achievement tend to be associated with demonstrated higher test congruencies. With respect to junior high age students, Myers and McCaulley provide one example MBTI test-retest study involving students at the grade 7 level. As for the SDS, Holland reports test-retest reliability studies with combined groups of junior high and high school students. In light of published research regarding the

reliability of these measures over time, further research may be beneficial for determining the appropriateness of use of these instruments in research investigations involving junior high age students.

A second research consideration is inclusion of both teacher and student perceptions in examining EER. The use of student perceptions may yield insights that would be valuable to teachers for reflecting upon their interaction styles and teaching practices (Puangkaew, Noparat, & Digby, 1986). In certain studies, student perceptions regarding the instructional relationship were more strongly associated to their levels of achievement than were teacher perceptions (Wubbels, Créton, & Hooymayers, 1992).

Concluding Remarks

Lempers and Clark-Lempers (1992) underscore the importance of the teacher-student relationship to student accomplishment of educational goals and personal well-being. They also assert that the adopted approaches and established structures by which adolescents and teachers interact may not always facilitate the "formation of personal bonds." One particular study involved asking young, middle, and late adolescents to rate the importance of five significant relationships. These included relationships with both parents, siblings, best friends and most important, teacher. In all instances, relationships with teachers were rated lowest on such attributes as affection, reliable reliance, and companionship. The findings of their

research supports Galbo's (1986) contention that teachers generally have not been perceived as significant to adolescents.

In the light of such research, the need for investigation of specific ways by which the teacher-adolescent/student relationship may be understood and enhanced is highlighted. Slavin (1988) notes the educational and relational benefits of open communication between teacher and student. He maintains that the "astute teacher" is sensitive to student needs and has a flexibility in communication. In addition, he states that such teachers encourage acceptance and tolerance among class members. As well, they provide students with sufficient support and challenge them to undertake new areas of development.

The personality theories of Jung and Holland provide a framework for understanding individual differences that may be apparent among students and within the teacher-student relationship. Knowledge of preferences facilitates the possibility of validating students within relationships, and has implications for the personal development of both teacher and student. Both theories purport to have beneficial insights for contributing positively the quality of the teacher-student relationship and for supporting the learning process. According to Naussbaum and Prusank (1989), research regarding the relationship of such models to classroom interaction dynamics has been carried out mainly at the college level. They contend there is need for further research which would focus on school-age populations.

Hence, the effectiveness of models such as Jung's and Holland's to provide insights into the dynamics of the teacher-student relationship warrants continued research.

CHAPTER III

Method

At the beginning of Chapter III a description is given of the population samples used in both the Pre-Research Reliability Study as well as in the Research Study. Next, under the heading Materials, the measurement instruments and perception device are described. The procedures followed in the Pre-Research Reliability Study and in the Research Study are then outlined. Finally, in the closing section the researcher elaborates on the organization and analysis of data for both studies.

Subjects

Reliability Sample

Participants in the Pre-Research Reliability Study were 88 junior high school students, 40 males and 48 females. The age range was that appropriate to grades 8 and 9, and the school was located in an urban centre in western Canada.

Research Study Sample

The participants for the Research Study included both teacher and student samples. The teacher sample was comprised of 47 teachers, 19 males and 28 females. The teachers in this sample were representative of a range of teaching assignments and experiences at the grades 8 and 9 levels.

The student sample included 290 adolescents, 142 males and 148 females. These students were all involved in regular junior high

programming and were not identified as students with special needs. The teacher and student samples were drawn from eight different junior high schools of an urban center in western Canada.

Materials

The instruments used to identify the psychological types for both teachers and students were the Myers-Briggs Type Indicator, Form G (MBTI) (Myers and Briggs, 1977) and the Self-Directed Search, Form R (SDS) (Holland, 1985). These two personality instruments were used in the Pre-Research Reliability Study. In the subsequent Research Study, these instruments were used in conjunction with the Teacher-Student Relationship Device (TSRD).

Myers-Briggs Type Indicator (MBTI)

The MBTI assesses personality along four dimensions in line with Jung's Theory of Psychological Types. These dimensions include: primary source of personal energy (extraversion, introversion - EI), preferred ways of acquiring information (sensing, intuition - SN) and making decisions (thinking, feeling - TF), and general orientation towards the outside world (judgment, perception - JP). For the purpose of this research, Form G, the standard form of the MBTI was administered. This untimed, self-report inventory is composed of 126 items including a force-choice format. This format is presented in three sections. The first and third are comprised of questions with the middle sections involving word-pairs. The highest reading level of any

section of the MBTI is considered to be approximately at the grade 8 level.

The results of the MBTI render preference scores which may be used to form the basis of a four-letter typology - (e.g., extraversion-intuition-feeling-judgment: ENFJ). Given the four bipolar dimensions, there exists a possibility of 16 psychological types. The dichotomous preference scores may also be treated as if they were continuous scales. This transformation of scores proves useful when carrying out analyses in correlational research.

With respect to the empirical aspects of the indicator, both the MBTI manual (Myers & McCaulley, 1985) and recent reviews (Carlson, 1984, 1989; Murray, 1990) report acceptable estimates of internal consistency for the various test scores with adult samples, and somewhat lower but still adequate reliabilities for younger samples. Internal consistency coefficients for junior high school students range from .73 to .86. For test-retest reliability of continuous scores, one study with seventh-grade students over a 12-month interval rendered reliability coefficients of .60 to .73. With respect to test-retest agreements of type categories in this same study, agreement ranged from 73%-79%. When changes are noted with respect to a specific type, this appears to occur most frequently on a single scale and on test scales where the initial preference score was low (Myers & McCaulley, 1985; Walck, 1992).

With regards to establishing the validity of the Type indicator, McCaulley (1981) notes that studies dealing with the construct validity of the MBTI are most pertinent since the indicator was specifically developed to implement a theory. In support of the construct validity of the indicator, type distributions of occupational groups, correlations with other scales, and studies of behaviour differences in type have been reported by the authors of the MBTI Manual (Myers & McCaulley, 1985). Validity studies of the Type indicator seem to lend support for descriptive differences among personality preferences (Carlson, 1989; Murray, 1990; Willis, 1984). However, there appears to be a need for further research to provide evidence for the theoretical formulations pertaining to interactions of preferences within specific types. Such research would be of benefit in providing insight into type dynamics and their implications for type theory.

Self-Directed Search (SDS)

According to Holland (1985), the SDS is "a self-administered, self-scored, and self-interpreted vocational counseling tool" (p. 1). The SDS provides scores on six personality types as theorized by Holland. These six personality types are: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). Each type forms an individual scale on the SDS, with the highest three ratings indicating the individual's summary code. For example, an individual's results consisting of such scores as: R-45; I-16; A-22; S-32; E-33; C-27 would indicate a summary code of RES. The use of the

three-letter summary code, according to Holland (1985) "allows for complexity of personality, and reduces some of the problems inherent in categorizing a person as a single type" (p. 3). One limitation of using the three-letter code in research is that the possibility of ties exists in the scale scores.

The SDS is divided into four areas, each one including six personality scales. The areas are: Activities, Competencies, Occupations, and Self-Estimates. In each of these sections, individuals are expected to respond by affirming their degree of identification or lack of it with each personality scale.

The SDS is recommended for administration with individuals who have at least an eighth-grade reading level. However, it is noted in the SDS Manual (Holland, 1985) that there is a need for further research to establish the upper and lower age limits for the use of this instrument for testing.

In terms of the empirical aspects of this instrument, the SDS Manual reports information regarding the internal consistency and retest reliabilities of the Self-Directed Search. According to Holland, the median rank order for students ages 14-18 over a three to four-week period yielded coefficients of .83 and .81. Internal consistency coefficients for the SDS Summary scales ranged from .83 to .91. With respect to concurrent validity, the SDS Manual reports the percentage of a sample whose high point code and one-letter occupational or inspirational code agree. For students ages 14-18,

Holland (1985) reports 48% agreement between high point SDS code and first-letter code of students' vocational aspirations. Holland and Rayman (1986), in their review of concurrent validity studies, indicate that other inventories have percentage hit rates that generally range from 40%-55%. The SDS Summary scales have comparable, and in some instances concurrent validities that exceed other inventories.

Teacher-Student Relationship Device (TSRD)

The TSRD provides a means whereby students and teachers may indicate their perceptions regarding the degree of ease of establishing rapport within their relationship. This was accomplished in the study by presenting these individuals with a brief description of "ease of establishing rapport (EER)" which incorporated eight short statements (Table 3, p. 43). Based upon this description of EER, teachers and students individually were requested to consider their relationships and the level of ease of establishing rapport they experienced in their relationship.

Using the TSRD, teachers were asked to select from their class three students with whom they had experienced a high level of ease of establishment of rapport, and three with whom they had experienced a low level of this quality of relationship. Students were also requested to consider their relationship with teachers from their major school subject areas. They were invited to describe their experience with

Table 3

Teacher-Student Relationship Device (TSRD)

Ease of Establishing Rapport is ...

- finding common ground in areas of interest.
- having similar views of what is important and of value
- experiencing ease and accuracy in communication.
- agreeing and cooperating in reaching common goals.
- having a sense of support within the relationships.
- being understood and understanding one another.
- having similar approaches in problem-solving and decision-making.
- experiencing natural and spontaneous interaction.

specific subject teachers by indicating whether a higher or lower level of EER was characteristic of this relationship.

Procedure

Prior to the commencement of the investigation, a proposal outlining the intent, procedure, testing materials, ethical considerations, and degree of school involvement surrounding the research was submitted to the urban Public School Board. Upon receiving approval for this study, the Public School Board presented the researcher with a list of 10 junior high school principals who could be contacted regarding the voluntary participation of their schools. Eight of these schools did agree to participate in the study, providing that individual teachers and students would volunteer.

Pre-Research Study Procedure

In order to initiate the Pre-Research Study, permission letters were sent to parents/guardians of those grades 8 and 9 students invited to participate in the study (see Appendix B-2). These students were from three classes of two junior high schools. In these letters, the purpose of the investigation, the information the instruments would yield, and the nature of the test administration were outlined. The permission slips of those students who had volunteered to participate in the study were collected by the classroom teachers.

Next, arrangements were made and executed for students to complete the MBTI and the SDS at the beginning and end of a three to six-week interval. This was completed in the first part of the second

term. The initial intent was to complete the instruments at the commencement, and again following a two-week interval. However, as a result of interference of school activities and schedules, the length of time between testing periods was extended to six weeks. Students completed both administrations of the SDS while supervised by their teachers, or in one case by the school counsellor. Prior to testing, both teachers and counsellor were briefed on procedures to be followed for administering these instruments.

Research Study Procedure

The first step in initiating this research entailed sending teachers a letter outlining both the purpose of the research as well as the nature of their involvement (see Appendix B-1). They were then contacted regarding their participation in the study. Towards the end of the first school term and the onset of the second term, teachers who had volunteered to participate in the study were presented a copy of the MBTI and SDS to complete. In addition, teachers were also requested to identify six students from their classes, three with whom they had experienced high levels of EER, and three with low levels of this quality. This was effected by providing teachers with copies of the TSRD.

The completed SDS, MBTI, and TSRD were then collected by the researcher. Based upon the student selections made by teachers using the TSRD, a list of potential student-participants was compiled. Permission letters were then issued to Parents/Guardians of students on this list (see Appendix B-3). As with the Pre-Research Study letter,

a description of the rationale, instruments, ethics, and nature of student involvement was included.

The signed permission forms were submitted to students' homeroom teachers. Subsequently, arrangements were made and carried out for those students having permission to complete the MBTI and SDS. The administration and supervision of these testing periods in five schools were carried out by school counsellors, and in three schools by classroom teachers. Prior to testing, the researcher reviewed with school counsellors and teachers the procedures for administering the personality instruments. A second visit to the school following completion of the MBTI and SDS was made by the researcher. During this visit, students who had filled out the personality instruments were given an opportunity by using the TSRD to indicate their perceptions of EER with respect to their relationships with their specific subject teachers.

The preceding aspects of the Research Study were carried out during mid-second term of the school year. Ongoing contact was maintained with the schools involved in order to respond to enquiries of students and school staff, to monitor the progress of research, and to collect the completed research data.

Analysis

Pre-Research Reliability Study

All protocols of the MBTI and the SDS were handscored by the researcher. For the purpose of the Pre-Research Reliability Study, the

MBTI results were presented in two different forms, using dichotomous or continuous scores. Each MBTI score consisted of letters showing the direction of the reported preference and a number indicating the apparent strength of that preference. This scoring system was used in determining which of the two poles on each of the four Jungian dimensions was the individual's apparent preference. Hence, each individual was assigned a four-letter preference indicating a specific type, one of 16 possible psychological types. This approach to analysis of the data is consistent with the notion of dichotomous preferences which supports the theoretical position of the MBTI.

The second approach in analyzing data was to treat the dichotomous preference scores as if they were continuous scales. Myers and McCaulley (1985) describe this approach for the transformation of preference score data.

- For E, S, T, or J preference scores, the continuous score is 100 minus the numerical portion of the preference score.
- For I, N, F, or P preference scores, the continuous score is 100 plus the numerical portion of the preference score. (p. 9)

In this case, a preference score of S15 would be considered as an SN continuous score of 85. The converting of preference results to continuous scores gives greater consideration to low preference scores,

which in a retest situation might result in changes on a single dimension, or in a type designation (Myers & McCaulley, 1985).

The results of the SDS presented continuous scores for each of the six personality scales. These scores were used in the analysis of the Pre-Research Reliability Study. The correlational analysis used to estimate the MBTI test-retest reliability was the Pearson Product Moment Correlation Coefficient. This analysis was carried out for both the dichotomous and continuous test-retest data of the MBTI. Following the correlational analysis employed in the test-retest studies cited in the SDS Manual (Holland, 1985), the Spearman Rank Correlation Coefficient was utilized. This approach stresses the importance of the reliability of the rank order of the SDS summary scores.

Research Study

Preliminary Considerations. As with the Pre-Research Reliability Study, all the protocols of the SDS and MBTI for both teachers and students were handscored by the researcher. The data were initially sorted into teacher and student categories. Each set of data was described using tables reporting the number of individuals in a particular type, the percentage of the total sample falling in that type, and the group means associated with the continuous scores of each personality scale. In addition, the distribution of psychological types for both teacher and student groups was considered with respect to type distributions of similar samples reported in the MBTI Atlas of

Type Tables (Macdaid, McCaulley, Kainz, 1986). The MBTI Atlas provides type tables from different populations based on data gathered by the Center for Application for Psychological Type Data Bank.

High and Low EER Student Groups. The next phase of analysis was to organize student data according to teachers' perceptions of high and low EER. A one-way Analysis of Variance (ANOVA) was used to determine differences among high and low EER groups on the continuous personality scales of the MBTI and SDS. Dichotomous scores for EER groups resulting from the MBTI data were analyzed using the Chi-Square test. In addition, continuous data for high and low EER groups and teacher group were analyzed using One-Way Analysis of Variance. Post hoc analyses using Scheffé's test were carried out in order to identify patterns of differences among groups. Chi-Square analysis was also utilized for analyzing the dichotomous scores of these three groups.

Teacher-Student Similarity Scores

The next phase of research entailed computation of teacher-student similarity scores. Teacher-student pairs resulting from the initial selections by teachers were used as a basis for comparing teacher-student scores and the determination of similarity scores for these dyads. Several approaches were used for finding the degree of similarity between teacher-student pairs based on the resulting data.

For each of the dichotomous scores on the MBTI, teacher-student pairs were designated "1" if they were the same, and "2" if they were

different. The number of dichotomous preferences in the MBTI for the teacher and student was also considered. For example, a teacher and student with the same Jungian type designation would receive a score of four, whereas a dyad having no preferences in common would receive zero as a score.

Similarity scores were also created by using the continuous scores of the personality scales of both the MBTI and SDS. This was accomplished by taking the difference of each teacher-student score. Hence, the smaller the difference between teacher-student scores, the greater the similarity.

Further to the preceding approaches, a method developed by Yeakley (1982) was employed. His method of analysis considers the degree of similarity within a relationship in terms of "type dynamics" of each individual type. According to Yeakley, each type possesses a unique pattern of primary, secondary, tertiary, and least-preferred communication styles. In view of various communication style preferences that may exist within relationships, Yeakley formulated an adjustment index in order to reflect the apparent shifts in communication styles that both dyad members must make as sender and receiver of information. The specific personality functions associated with each communication preference are determined based on the given dominant and auxiliary function of each type. His adjustment index consists of a four-digit number which describes the descending levels of an individual's communication style.

By way of illustration, the INFP's have a dominant F and approach their outer world with their auxiliary N. Based on Yeakley's method, INFP sender's communication style preferences, primary through least-preferred, are N#1, F#2, S#3, and T#4. In contrast, the ESTJ communication style preferences are T#1, S#2, F#3, and N#4. In order to determine a communication style score based on the preceding example, the numbers indicating the sender's preference (INFP) are placed in the positions corresponding to the receiver's (ESTJ) primary, secondary, tertiary and least-preferred communication styles. This procedure results in an adjustment index of 4321, suggesting highest degree of shift in communication style. If the sender were a second INFP, the index would result as 1234 denoting minimal shift in communication. Employing this procedure, there are 24 one-way sender-receiver communication adjustment indices ranging from 1234 to 4321. Low score indices suggest greater ease of communication; conversely, high scores indicate greater need for adjustment. In order to provide easy comparison with the number of preferences individuals may have in common on the MBTI, Yeakley reverses his communication adjustment index so that higher adjustment scores indicate greater ease of communication, whereas lower scores suggest greater difficulty of communication.

In relationships in which both sender and receiver information are readily identified, this index of communication similarity may be applied. This may be the case for teacher-student relationships. Using

a similar approach, Yeakley also developed scores for two-way communication dyads. This method considers the communication style preferences of each individual as sender and receiver of information. This adjustment index provides 17 different levels of communication adjustment with the score of 17 suggesting highest ease of communication; conversely, the score of one indicating the highest level of difficulty in communication adjustment. Table 4 (p. 53) provides the communication adjustment scores for one-way and two-way communication pairs.

As with the MBTI, various approaches have been employed in investigating type similarity or congruence considering Holland's constructs. For this study, Iachan's method for estimating agreement between any pair of three-letter summary codes on the SDS was used. The individual summary codes of the teacher and student were composed of the three letters of the personality scales with the three highest scores. Iachan's (1984) measure of code agreement employs a position-weighted scoring system in which greater importance is given to matches resulting in code positions which indicate an individual's "dominant" personality orientation. The method of calculating the congruence between a pair of three-letter codes is explained in Table 5 (p. 54) (SDS, 1987, p. 19). The higher the agreement index, the greater the congruence of the selected pairs of three-letter codes. According to Bruch and Scovholt (1985), Iachan's approach correlates strongly with other techniques for calculating the degree of three-letter agreement.

Table 4

Communication Adjustment Rank Scores for *One-Way* and Two-Way Dyads

Psychological Type of Receiver or Person B	Psychological Type of Sender or Person A															
	E S T J	E S T P	E S F J	E S F P	E N T J	E N T P	E N F J	E N F P	I S T J	I S T P	I S F J	I S F P	I N T J	I N T P	I N F J	I N F P
	24	*17*	*3*	*11*	*22*	*14*	*1*	*8*	*23*	*18*	*9*	*5*	*20*	*16*	*7*	*2*
ESTJ	17	11	2	9	15	9	1	5	16	12	4	6	14	10	3	3
	17	*24*	*14*	*22*	*11*	*3*	*8*	*1*	*18*	*23*	*16*	*20*	5	*9*	*2*	*7*
ESTP	11	17	9	15	9	2	5	1	12	16	10	14	6	4	3	3
	3	*11*	*24*	*17*	*1*	*8*	*22*	*14*	*9*	*5*	*23*	*18*	*7*	*2*	*20*	*16*
ESFJ	2	9	17	11	1	5	15	9	4	6	16	12	3	3	14	10
	14	*22*	*17*	*24*	*8*	*1*	*11*	*3*	*16*	*20*	*18*	*23*	*2*	*7*	*5*	*9*
ESFP	9	15	11	17	5	1	9	2	10	14	12	16	3	3	6	4
	22	*14*	*1*	*8*	*24*	*17*	*3*	*11*	20	*16*	*7*	*2*	*23*	*18*	*9*	*5*
ENTJ	15	9	1	5	17	11	2	9	14	10	3	3	16	12	4	6
	11	*3*	*8*	*1*	*17*	*24*	*14*	*22*	*5*	*9*	*2*	*7*	*18*	*23*	*16*	*20*
ENTP	9	2	5	1	11	17	9	15	6	4	3	3	12	16	10	14
	1	*8*	*22*	*14*	*3*	*11*	*24*	*17*	*7*	*2*	20	*16*	*9*	*5*	*23*	*18*
ENFJ	1	5	15	9	2	9	17	11	3	3	14	10	4	6	16	12
	8	*1*	*11*	*3*	*14*	*22*	*17*	*24*	*2*	*7*	*5*	*9*	*16*	*20*	*18*	*23*
ENFP	5	1	9	2	9	15	11	17	3	3	6	4	10	14	12	16
	23	*18*	*4*	*12*	*21*	*13*	*2*	*7*	*24*	*17*	*10*	*6*	*19*	*15*	*8*	*1*
ISTJ	16	12	4	10	14	6	3	3	17	11	8	7	13	7	5	1
	18	*23*	*13*	*21*	*12*	*4*	*7*	*2*	*17*	*24*	*15*	*19*	*6*	*10*	*1*	*8*
ISTP	12	16	6	14	10	4	3	3	11	17	7	13	7	8	1	5
	4	*12*	*23*	*18*	*2*	*7*	*21*	*13*	*10*	*6*	*24*	*17*	*8*	*1*	*19*	*15*
ISFJ	4	10	16	12	3	3	14	6	8	7	17	11	5	1	13	7
	13	*21*	*18*	*23*	*7*	*2*	*12*	*4*	*15*	*19*	*17*	*24*	*1*	*8*	*6*	*10*
ISFP	6	14	12	16	3	3	10	4	7	13	11	17	1	5	7	8
	21	*13*	*2*	*7*	*23*	*18*	*4*	*12*	*19*	*15*	*8*	*1*	*24*	*17*	*10*	*6*
INTJ	14	6	3	3	16	12	4	10	13	7	5	1	17	11	8	7
	12	*4*	*7*	*2*	*18*	*23*	*13*	*21*	*6*	*10*	*1*	*8*	*17*	*24*	*15*	*19*
INTP	10	4	3	3	12	16	6	14	7	8	1	5	11	17	7	13
	2	*7*	*21*	*13*	*4*	*12*	*23*	*18*	*8*	*1*	*19*	*15*	*10*	*6*	*24*	*17*
INFJ	3	3	14	6	4	10	16	12	5	1	13	7	8	7	17	11
	7	*2*	*12*	*4*	*13*	*21*	*18*	*23*	*1*	*8*	*6*	*10*	*15*	*19*	*17*	*24*
INFP	3	3	10	4	6	14	12	16	1	5	7	8	7	13	11	17

Note: Rank scores for one-way dyads appear in italics.
Rank scores for two-way dyads are in regular print.
In two-way dyads both A and B send and receive.

Table 5

How to Calculate the Degree of Agreement Between Any Pair of Three-Letter Codes

Iachan Indices

Code One		Code Two			
	1. S	2. A	3. R	Other Letters
1. S	22	10	4	0
2. A	10	5	2	0
3. E	4	2	1	0

Agreement Index = 22 + 5 + 0 = 27.

Use the following blank forms to calculate the Agreement Index. Draw X's through the number when two letters match. Add up the X'ed out numbers.

Code One		Code Two			
	1. _____	2. _____	3. _____	Other Letters
1. _____	22	10	4	0
2. _____	10	5	2	0
3. _____	4	2	1	0

Agreement = _____ + _____ + _____ = _____

However, this method appears to provide a higher degree of discrimination between types than does the previously-used techniques. One of the limitations of using this technique is that it cannot be applied when there exist ties in the first, second, or third positions of the SDS summary code. In this study the existence of ties was encountered.

A second approach to considering the degree of similarity between teacher and student using Holland's constructs was to compare the dominant personality type of these individuals. The dominant personality type was determined by the SDS personality scale with the highest score. The degree of congruence between these personality types was estimated using Holland's Hexagonal model. As previously noted, the shorter the distance on the Hexagon between types, the closer they are in similarity. Using the Hexagon, teacher and students with the same letter types were assigned a score of four. Adjacent types were given a score of three. Types whose positions were other than opposite or adjacent received a score of two, whereas opposite types were given a score of one. Compared to the Iachan method, a greater number of similarity scores were available for analysis, since fewer ties resulted in the first-letter position of the summary code compared to the number of ties encountered when three-letter codes were included.

Perceptions of EER. Following the determination of similarity scores, they were sorted initially by teachers' perceptions into high and

low EER categories. One-Way Analysis of Variance and Chi-Square analysis were performed in order to determine differences among high and low EER groups on the various computed similarity scores. A second sorting was also completed, organizing data according to students' perceptions of EER. The same preceding statistical procedures as applied for teachers' perceptions for EER were also carried out for EER groups, based on students' perceptions.

Modal Teacher Type. Based on data associated with the Modal Teacher Type resulting from this sample, Analysis of Variance was employed to investigate potential differences between High and Low EER Student Groups and Teacher-Student Similarity Scores, organized by high and low EER.

CHAPTER IV

Results

This research study was conducted to address the following research questions: "Is greater ease of establishing rapport (EER) in teacher-student relationships, as perceived by both teachers and students, associated with a high degree of congruence with respect to individuals' personality types?", and conversely, "Is a lesser degree of this quality of relationship related to reported differences in teacher-student types?"

The researcher begins with a presentation of correlation of results of the test-retest Reliability Study. The preliminary research question addressed is, "Do the MBTI and SDS have adequate test-retest reliability to be used for research with students in grades 8 and 9?" In the second section the researcher provides a descriptive analysis of the teacher and student samples. The results of the Chi-Square and One-Way Analysis of Variance of high and low EER groups based on both teacher and student perceptions are reported in the subsequent three sections. Finally the researcher presents results associated with high and low EER groups as related to The Modal Teacher Type.

Pre-Research: Test-Retest Reliability Study

For the MBTI test-retest, reliabilities are reported for the four continuous scales. The time interval between test and retest varied from three to six weeks. Test-retest reliability coefficients for these scales ranged from .76 to .85. Reliabilities of the MBTI dichotomous

preferences were somewhat lower and ranged from a low of .50 to a high of .71. Table 6 (p. 59) includes test-retest correlations for the continuous and dichotomous scales of the MBTI. For the SDS test-retest, reliabilities ranged from .75 to .91. The specific reliability coefficients are presented in Table 7 (p. 60).

Teacher and Student Samples

Using the dichotomous scales of the MBTI, data for both teacher and student samples were arranged into a 16-cell type table. Each cell of the type table contains the four-letter MBTI type, the frequency of that type in the sample, and its percentage in the overall sample. Included in the table are the frequencies and percentages of each individual dichotomous preference. The table also describes the frequencies and percentages of various combinations of preferences which denote specific temperaments in line with Keirsey's theory (Keirsey & Bates, 1978). Data regarding temperament are located in the lower right-hand corner of each type table. Incomplete protocols for the teacher group resulted in missing data for one teacher case for MBTI results and for four cases of SDS results. In the student sample, there were four missing cases for MBTI results, and 14 for the SDS.

Tables 8 and 9 (pp. 61, 62) respectively present teacher and student samples. The most frequent preferences for the teacher group were S (59%), F (54%), J (67%), and the Modal Type for this sample was ISTJ (22%). The SJ temperament occurred most frequently in the teacher group (46%). Comparing the teacher sample to data gathered from CAPT DATA BANK (Macdaid, McCaulley, & Kainz, 1986)

Table 6

MBTI Test-Retest Reliability Estimates

n	Sex	Grade	EI	SN	TF	JP
Continuous Scales						
88	M,F	8,9	.8481	.8065	.7859	.7599
Dichotomous Scales						
88	M,F	8,9	.7062	.5615	.4997	.5527

Table 7

Retest Reliability Coefficients of SDS Summary Scales for Junior High School Students

Summary Scale	n	Sex	Grade	Reliability Coefficients
Realistic	88	M,F	8,9	.9149
Investigative	88	M,F	8,9	.8419
Artistic	88	M,F	8,9	.8204
Social	88	M,F	8,9	.8038
Enterprising	88	M,F	8,9	.7453
Conventional	88	M,F	8,9	.7995

Table 9

Student Sample: Dichotomous Preferences; Psychological Types; Temperaments

ISTJ	ISFJ	INFJ	INTJ	
M 10	M 3	M 3	M 4	
F 8	F 6	F 7	F 5	
T 18 [6%]	T 9 [3%]	T 10 [3%]	T 9 [3%]	
ISTP	ISFP	INFP	INTP	E 173 = 60% I 113 = 40% S 123 = 43% N 163 = 57% T 155 = 54% F 131 = 46% J 95 = 33% P 191 = 67%
M 18	M 8	M 8	M 8	
F 3	F 7	F 9	F 6	
T 21 [7%]	T 15 [5%]	T 17 [6%]	T 14 [5%]	
ESTP	ESFP	ENFP	ENTP	NF 87 = 30% NT 76 = 27% SJ 54 = 19% SP 69 = 24%
M 12	M 4	M 11	M 27	
F 7	F 10	F 39	F 14	
T 19 [7%]	T 14 [5%]	T 50 [17%]	T 41 [14%]	
ESTJ	ESFJ	ENFJ	ENTJ	
M 15	M 0	M 3	M 5	
F 6	F 6	F 7	F 7	
T 21 [7%]	T 6 (2%]	T 10 [3%]	T 12 [4%]	

Table 8

Teacher Sample: Dichotomous Preferences; Psychological Types; Temperaments

ISTJ	ISFJ	INFJ	INTJ	
M 6	M 1	M 0	M 0	
F 4	F 1	F 2	F 2	
T 10 [22%]	T 2 [4%]	T 2 [4%]	T 2 [4%]	
ISTP	**ISFP**	**INFP**	**INTP**	E 23 = 50%
M 2	M 1	M 1	M 1	I 23 = 50%
F 0	F 0	F 2	F 0	S 27 = 59%
T 2 [4%]	T 1 [2%]	T 3 [7%]	T 1 [2%]	N 19 = 41%
ESTP	**ESFP**	**ENFP**	**ENTP**	T 21 = 46%
M 1	M 1	M 1	M 0	F 25 = 54%
F 0	F 1	F 4	F 0	J 31 = 67%
T 1 [2%]	T 2 [4%]	T 5 [11%]	T 0	P 15 = 33%
ESTJ	**ESFJ**	**ENFJ**	**ENTJ**	NF 15 = 33%
M 2	M 1	M 1	M 0	NT 4 = 9%
F 2	F 4	F 4	F 1	SJ 21 = 46%
T 4 [9%]	T 5 (11%]	T 5 [11%]	T 1 [2%]	SP 6 = 13%

(Appendix, Table A-1), type-cell percentages were generally similar. However, in the research sample, ISTJ's were somewhat overrepresented (11%), and ISFJ's were underrepresented (4%). There were no ENTP's present in the research group, while 4% of the CAPT sample was represented by that type.

Table 10 (p. 64) summarizes the means and standard deviations of the personality continuous scales of the MBTI and SDS for the teacher group. The direction of the continuous MBTI means concurred generally with the percentages noted for the dichotomous preferences, with the exception of the TF dimension. The highest teacher SDS preference means were on the Social (39.302), Enterprising (30.047), and Investigative (26.419) preference scales.

With respect to the student sample, the most frequent preferences for this group were E (60%), N (57%), T (54%), P (67%), and the Modal Type for this sample was ENFP (17%). The NF temperament occurred most frequently in the student group, with the least-preferred temperament being SJ (19%). CAPT DATA BANK also provides type tables of males and females at the junior high school level. The data for the gender type tables were gathered separately, drawing on MBTI records submitted to CAPT for computer scoring between 1971 and 1982. These samples are approximately the same size as were those of the student sample of the Research Study.

Table 11 (p. 65) provides a summary of the means and standard deviations of the MBTI and SDS continuous scales for the student

Table 10

Mean Scores of MBTI and SDS Preferences for Teacher Group

Personality Scale Scores	n	Mean	S.D.
Myers-Briggs Type Indicator			
Extraversion - Introversion	46	101.087	26.107
Sensing - Intuition	46	98.174	25.666
Thinking - Feeling	46	98.978	22.446
Judging - Perceiving	46	91.696	23.141
Self-Directed Search			
Realistic	43	22.767	10.695
Investigative	43	26.419	9.728
Artistic	43	25.907	13.044
Social	43	39.302	5.910
Enterprising	43	30.047	8.513
Conventional	43	20.605	8.694

Table 11

Mean Scores of MBTI and SDS Preferences for Student Group

Personality Scale Scores	n	Mean	S.D.
Myers-Briggs Type Indicator			
Extraversion - Introversion	286	94.007	23.971
Sensing - Intuition	286	104.867	21.115
Thinking - Feeling	286	94.727	22.157
Judging - Perceiving	286	113.790	28.192
Self-Directed Search			
Realistic	276	21.707	9.355
Investigative	276	23.967	9.626
Artistic	276	25.543	10.716
Social	276	24.283	10.093
Enterprising	276	22.080	9.581
Conventional	276	17.279	8.642

group. The direction of the continuous MBTI means was consistent with the dichotomous preferences. The order of student preferences based on SDS preference means was ASIERC.

High and Low EER Student Groups

As previously noted, students' data were sorted into high and low EER groups based on teacher perceptions. This resulted in 152 students in the high EER group and 124 students in the low EER group. There were 14 students who had been coded both high and low by different teachers. These cases were omitted from this phase of the study. However, they were included in the teacher-student dyad data.

Table 12 and 13 (pp. 67, 68) describe the type data with respect to high and low EER student group according to perception of teachers. For the high EER group, the individual preferences presenting themselves most frequently were E (61%), N (64%), T (52%), and P (64%). The Modal Type for this group was ENFP. In terms of temperament, NF (38%) had the highest frequency. There were a greater number of females (65%) than there were of males (35%) in the high EER group.

For the low EER group, the most frequent preferences were E (58%), S (52%), T (58%), and P (70%). The Modal Type for this group was ENTP. Regarding temperament, SP (32%) was noted most frequently. For both high and low EER groups, SJ was the least-occurring temperament. In the low group there were a greater number of males (67%) than there were of females (33%).

Table 12

High EER Student Group: Preferences; Psychological Types; Temperaments

ISTJ [8%] T 12	ISFJ [3%] T 4	INFJ [5%] T 7	INTJ [4%] T 6	
ISTP [5%] T 7	ISFP [6%] T 6	INFP [7%] T 11	INTP [5%] T 7	E 92 = 61% I 60 = 39% S 54 = 36% N 98 = 64% T 79 = 52% F 73 = 48% J 55 = 36% P 97 = 64%
ESTP [6%] T 9	ESFP [4%] T 6	ENFP Mode [20%] T 31	ENTP [13%] T 20	NF 57 = 38% NT 41 = 27% SJ 26 = 17% SP 28 = 18%
ESTJ [7%] T 10	ESFJ (0%) T 0	ENFJ [5%] T 8	ENTJ [5%] T 8	

Table 13

Low EER Student Group: Preferences; Psychological Types; Temperaments

ISTJ [5%] T 6	ISFJ [2%] T 3	INFJ [2%] T 3	INTJ [2%] T 3	
ISTP [12%] T 14	ISFP [7%] T 9	INFP [5%] T 6	INTP [5%] T 6	E 70 = 58% I 50 = 42% S 62 = 52% N 58 = 48% T 70 = 58% F 50 = 42% J 36 = 30% P 84 = 70%
ESTP [7%] T 8	ESFP [6%] T 7	ENFP [13%] T 15	ENTP Mode [16%] T 19	NF 26 = 22% NT 32 = 27% SJ 24 = 20% SP 38 = 32%
ESTJ [8%] T 10	ESFJ (4%) T 5	ENFJ [2%] T 2	ENTJ [3%] T 4	

Chi-Square analysis was carried out to determine if high and low EER groups were related to particular MBTI preference categories. The MBTI categories considered were Extraversion/Introversion, Sensing/INtuition, Thinking/Feeling, Judgment/Perception, and Psychological Temperaments (SJ, SP, NF, NT). The results of these analyses indicated significant relationships between EER groups and the SN categories (χ^2=7.14, p<.01), and EER groups and temperament categories (χ^2=10.67, p<.05).

A One-Way Analysis of Variance was used to determine whether the mean preference scores of the high and low EER groups were significantly different from one another. The results of this analysis are presented for each of the continuous preference scales of the MBTI and SDS in Table 14 (p. 70).

On the preference scales of the MBTI, significant differences between high and low EER groups were noted on the SN (p<.05) and TF (p<.05) scales. For the Self-Directed Search, there were significant mean differences between these groups on I (p<.01), A (p<.05), S (p<.01), and C (p<.01).

A One-Way Analysis of Variance was also carried out to discover whether the mean preference scores of high and low EER groups and teacher group were significantly different. Table 15 (p. 71) summarizes the results of this analysis. Post hoc analyses employing Scheffé's procedure revealed teacher group results to be significantly different from those of the high and low EER groups on the JP, S, and E

Table 14

ANOVA Summary I: Mean Scores for Continuous Preference Scales of the MBTI and SDS for High and Low EER Groups Associated With Teacher Perception

	High EER Group		Low EER Group			
	Mean	S.D.	Mean	S.D.	F	
Preference Scales						
Myers-Briggs Type Indicator						
Extraversion - Introversion	95.3947	23.9592	93.3667	24.2757	.4749	
Sensing - Intuition	107.2105	21.8255	101.8333	20.0614	4.3691	*
Thinking - Feeling	96.6447	22.0580	91.3667	21.6977	3.8931	*
Judging - Perceiving	111.9605	29.9014	116.0500	25.8606	1.4110	
Self-Directed Search						
Realistic	20.7817	9.3058	22.7000	9.3329	2.7564	
Investigative	26.5423	9.5224	21.4333	8.9974	19.6874	**
Artistic	26.9014	11.3826	23.7000	9.6716	5.8949	*
Social	26.6549	9.6521	21.3083	9.8132	19.6534	**
Enterprising	23.0915	9.4927	20.8567	9.7108	3.4983	
Conventional	19.0423	9.1387	15.5250	7.8269	10.9723	**

Note: *p<.05, ** p<.01

Table 15

ANOVA Summary II: Mean Scores for Continuous Preference Scales of the MBTI and SDS for High and Low EER Groups and Teacher Group

	High EER Group Mean	Low EER Group Mean	Teacher Group Mean	F	
Preference Scales					
Myers-Briggs Type Indicator					
Extraversion - Introversion	95.3947	93.3667	101.087	1.6659	
Sensing - Intuition	107.2105	101.8333	98.174	3.8846	*
Thinking - Feeling	96.6447	91.3667	98.978	2.8175	
Judging - Perceiving	111.9605	116.0500	91.696	13.3849	***
Self-Directed Search					
Realistic	20.7817	22.7000	22.767	.2098	
Investigative	26.5423	21.4333	26.419	10.7501	***
Artistic	26.9014	23.7000	25.907	2.7882	
Social	26.6549	21.3083	39.302	59.5427	***
Enterprising	23.0915	20.8567	30.047	14.9514	***
Conventional	19.0423	15.250	20.605	7.9884	***

Note: *p<.05, ** p<.01, *** p<.001

dimensions. For the I and C scales, teacher group and high EER group means were significantly different from those of the low EER group. As for the SN results, the means for teacher group and high EER group were significantly different. In addition, the mean of the high EER group was significantly different from the mean of the low EER group on S.

Teacher Perception: High and Low EER for Teacher-Student Dyads

Based on gathered data, similarity scores derived from teacher-student dyads were computed. These scores were sorted according to teacher perception of high and low EER. Chi-Square analysis was performed to determine whether these high and low EER groups were related to dyad similarity in MBTI preference categories. The individual MBTI dimensions considered for similarity were: Extraversion/Introversion; Sensing/INtuition; Thinking/Feeling; and Judgment/Perception. There were 402 similarity scores available for analysis. The only significant Chi-Square statistic was on the JP dimension ($\chi^2 = 5.90483$, $p < .05$) indicating a significant relationship between preference similarity and EER. The Chi-Square summary results are located in Table 16 (p. 73).

Analysis of Variance was employed to determine whether there were significant differences between the similarity means of high and low EER groups (teacher perception of EER). Table 17 (p. 74) summarizes these results. Significant differences ($p<.05$) occurred only

Table 16

Percentage of Congruent Preferences for High and Low EER Teacher-Student Dyads

	High EER	Low EER
Same on EI	53.0	51.8
Different on EI	47.0	48.2
Same on SN	46.6	52.9
Different on SN	53.4	47.1
Same on TF	50.9	50.6
Different on TF	49.1	49.4
* Same on JP	47.4	35.3
* Different on JP	52.6	64.7

Note: *χ^2, $p<.05$

Table 17

ANOVA Summary III: Mean Similarity Scores for High and Low EER Groups (Teacher Perception)

	High EER Group		Low EER Group			
	n	Mean	n	Mean	F	
Similarity Scales						
Myers-Briggs Type Indicator						
Difference in EI Scores	232	28.4784	170	28.5882	.0030	
Differences in SN Scores	232	28.1164	170	27.7765	.0312	
Difference in TF Scores	232	27.5733	170	27.6471	.0014	
Difference in JP Scores	232	34.6379	170	39.2000	3.5213	
Number of Common Preferences	232	1.9828	170	1.9059	.5081	
Yeakley One-Way	232	11.9914	170	12.6294	.7050	
Yeakley Two-Way	232	8.3836	170	8.6647	.3124	
Self-Directed Search						
Difference in R Scores	210	10.6048	160	12.0687	2.8247	
Difference in I Scores	210	10.2238	160	11.5750	2.7456	
Difference in A Score	210	13.2000	160	13.1563	.0018	
Difference in S Scores	210	14.8476	160	17.9437	10.0412	**
Difference in E Scores	210	11.8714	160	13.4812	2.8936	
Difference in C Scores	210	10.4571	160	10.4500	.0001	
Iachan	102	12.1765	89	9.7303	4.7870	*
Hexagon	155	2.6774	130	2.3692	7.5369	**

Note: *p<.05 **p<.01

between similarity means associated with Holland's theory. These results were evident on the Iachan, Hexagon, and S similarity scales. When observing the means presented in ANOVA Summary tables, it should be noted that the greater the means based on teacher-student differences, the lower the degree of similarity. Conversely, greater means on all other scales indicate a higher degree of congruence.

Student Perception: High, Low, and Moderate EER for Teacher-Student Dyads

Similarity scores were also sorted according to teacher perception of high and low EER. The TSRD for the student provided the students the option of selecting either high and low EER to describe their relationship with their teacher. In some instances, students requested to check the line between the high and low categories; that is, they desired to indicate a moderate as opposed to either a high or low EER. Hence, for student perceptions, three levels of EER were considered. As a result of absenteeism and involvement in other school activities, the second visit to participating schools to have students complete the TSRD yielded 304 student perceptions out of a possible 412. Table 18 (p. 76) shows the degree of agreement between teacher and student perception of EER.

Chi-Square analysis was carried out to determine whether high, low, and moderate EER groups were related to dyad similarity in MBTI preference categories. The only significant Chi-Square outcome

Table 18

Percentage Ratings of EER Perceptions by Teachers (T) and Students (S)

EER Ratings	Percentages
T/S Agreement on High EER	75.0
T/S Agreement on Low EER	38.7
High EER by T, Rated Moderate by S	14.6
Low EER by T, Rated Moderate by S	16.0

was on the JP scale (X^2=8.81080, p<.05). Table 19 (p. 78) summarizes the Chi-Square results.

Analysis of Variance was used to determine whether there were significant differences between the similarity means of high, low, and moderate EER groups. Table 20 (p. 79) describes these results. Post hoc analysis employing Scheffé's test was used to identify the pattern of differences between groups. A significant mean difference for high and low groups on the Hexagon scale was noted. An Analysis of Variance was carried out to consider only high and low EER similarity means. This analysis revealed significant differences on similarly means associated with JP (F=6.1222, p<.05), number of common MBTI preferences (F=5.7571, p<.05) and Hexagon (F=14.6438, p<.001) scales.

Ease of Establishing Rapport Associated With Modal Teacher Type (ISTJ)

Student data were sorted into high and low EER groups based on ISTJ teacher perceptions. This resulted in 37 students in the high EER group and 35 in the low. Tables 21 and 22 (p. 80, 81) present the type data of high and low EER groups. For the high EER group, individual preferences appearing with greatest frequency were: E (57%), N (65%), F (51%), and P (57%). The Modal type for this group was ENFP (19%). Temperament NF (41%) was noted most often, with the least-occurring preference being SP (11%).

The highest frequency preferences for the low EER group were: I (53%), S (56%), T (62%), and P (88%). The Modal type for this group

Table 19

Percentage of Congruent Preferences for High, Low and Moderate EER Teacher-Student Dyads by Student Perception

	High EER	Low EER	Moderate EER
Same on EI	55.5	52.4	45.5
Different on EI	44.5	47.6	54.5
Same on SN	50.8	42.9	56.8
Different on SN	49.2	57.1	43.2
Same on TF	54.5	49.2	52.3
Different on TF	45.5	50.8	47.7
* Same on JP	49.7	28.6	40.9
* Different on JP	50.3	71.4	59.1

Note: *χ^2, $p<.05$

Table 20

ANOVA Summary IV: Mean Similarity Scores for High, Low, and Moderate EER Groups (Student Perception)

	High EER Group		Low EER Group		Moderate EER Group			
Similarity Scales	n	Mean	n	Mean	n	Mean	F	
Myers-Briggs Type Indicator								
Difference in EI Scores	191	28.1047	63	27.7778	44	31.3182	.5374	
Differences in SN Scores	191	29.1780	63	26.4762	44	26.0000	.8124	
Difference in TF Scores	191	27.5131	63	26.0000	44	28.3636	.2134	
Difference in JP Scores	191	33.4241	63	41.9048	44	36.8182	2.9495	* (H/L)
Number of Common Preferences	191	2.1099	63	1.7302	44	1.9545	2.9988	* (H/L)
Yeakley One-Way	191	13.0628	63	11.4603	44	13.0909	1.1434	
Yeakley Two-Way	191	9.0052	63	8.1746	44	8.9773	.6753	
Self-Directed Search								
Difference in R Scores	180	11.1500	58	11.2241	42	10.9524	.0138	
Difference in I Scores	180	10.9056	58	10.2069	42	12.6190	1.2301	
Difference in A Scores	180	13.4944	58	12.7414	42	13.0000	.1415	
Difference in S Scores	180	15.2611	58	17.4828	42	16.5238	1.4816	
Difference in E Scores	180	12.2667	58	12.4483	42	10.9524	.4662	
Difference in C Scores	180	9.9000	58	10.4138	42	11.4524	.6727	
Iachan	95	11.3368	25	8.1200	21	9.4762	2.0288	
Hexagon	141	2.7447	43	2.1395	29	2.3448	8.3623	***

Note: * p<.05 *** p<.001

Table 21

High EER Student Group by ISTJ Teacher Perception

ISTJ	ISFJ	INFJ	INTJ	
[11%]	[3%]	[8%]	[3%]	
T 4	T 1	T 3	T 1	
ISTP	ISFP	INFP	INTP	E 21 = 57%
[0%]	[3%]	[11%]	[5%]	I 16 = 43%
T 0	T 1	T 4	T 2	S 13 = 35%
ESTP	ESFP	ENFP	ENTP	N 24 = 65%
[5%]	[3%]	[19%]	[11%]	T 18 = 49%
T 2	T 1	T 7	T 4	F 19 = 51%
ESTJ	ESFJ	ENFJ	ENTJ	J 16 = 43%
[8%]	(3%]	[3%]	[5%]	P 21 = 57%
T 3	T 1	T 1	T 2	

NF 15 = 41%
NT 9 = 24%
SJ 9 = 24%
SP 4 = 11%

Table 22

Low EER Student Group by ISTJ Teacher Perception

ISTJ [3%] T 1	ISFJ [0%] T 0	INFJ [0%] T 0	INTJ [3%] T 1	
ISTP [21%] T 7	ISFP [12%] T 4	INFP [9%] T 3	INTP [6%] T 2	E 16 = 47% I 18 = 53% S 19 = 56% N 15 = 44% T 21 = 62% F 13 = 38% J 4 = 12% P 30 = 88%
ESTP [12%] T 4	ESFP [3%] T 1	ENFP [12%] T 4	ENTP [15%] T 5	NF 7 = 21% NT 8 = 24% SJ 3 = 9% SP 16 = 47%
ESTJ [3%] T 1	ESFJ (3%] T 1	ENFJ [0%] T 0	ENTJ [0%] T 0	

was ISTP (21%). The SP (47%) temperament was most frequent, whereas SJ (9%) was the least frequent. The ISTJ type occurred fewer times in the low EER group (high EER 11% > 3% low EER). In the low EER group INFJ, ENFJ and ENTJ types were not represented.

Analysis of Variance procedure was employed to find out if mean preference scores of high and low EER groups were significantly different from one another. These results are in Table 23 (p. 83). Significant mean differences occurred on all SDS preference scales, except for R. For the MBTI, one significant mean difference was noted on the JP dimension.

Analysis of Variance was also applied to discover if significant differences existed between similarity means of high and low EER groups. Significant results were obtained on six of the SDS scales (R, I, A, S, Iachan Hexagon), and on two of the MBTI scales (TF, JP). The means on these were consistent with the idea of high EER being associated with greater dyad similarity, except for the A and TF dimensions. Because of a smaller number of observations for the moderate (n=14) and low (n=13) categories associated with student perception, further analyses were not pursued (Table 24, p. 84).

Table 23

ANOVA Summary V: Mean Scores for Continuous Preference Scales of the MBTI and SDS for High and Low EER Groups Associated With ISTJ Teacher Perception

	High EER Group		Low EER Group			
	Mean	S.D.	Mean	S.D.	F	
Preference Scales						
Myers-Briggs Type Indicator						
Extraversion - Introversion	98.4050	26.3517	97.9412	22.0591	.0064	
Sensing - Intuition	108.0811	22.7234	104.7647	19.6068	.4299	
Thinking - Feeling	97.3784	25.4508	90.8824	21.0968	1.3574	
Judging - Perceiving	111.2703	33.8335	126.7059	20.9769	5.2267	*
Self-Directed Search						
Realistic	19.6111	9.3939	22.9706	10.3352	2.0291	
Investigative	28.8056	8.8376	19.4706	9.2482	18.6486	***
Artistic	30.1944	12.8370	22.6471	8.6965	8.1965	**
Social	27.1944	9.9537	20.0588	9.7295	9.1848	**
Enterprising	24.2500	10.1034	17.7941	9.8220	7.3349	**
Conventional	19.7222	10.0160	13.1471	7.4065	9.6599	**

Note: *p<.05, ** p<.01, *** p<.001

Table 24

ANOVA Summary VI: Mean Similarity Scores for High and Low EER Groups (ISTJ Teacher Perception)

	High EER Group		Low EER Group			
	n	Mean	n	Mean	F	
Similarity Scales						
Myers-Briggs Type Indicator						
Difference in EI Scores	53	30.8679	38	36.5263	1.5327	
Differences in SN Scores	53	31.6415	38	27.3158	1.0608	
Difference in TF Scores	53	31.3585	38	22.3158	5.7717	*
Difference in JP Scores	53	43.6981	38	56.9474	5.9904	*
Number of Common Preferences	53	1.8302	38	1.7895	.0248	
Yeakley One-Way	53	11.4717	38	11.4474	.0002	
Yeakley Two-Way	53	8.4340	38	8.0789	.0126	
Self-Directed Search						
Difference in R Scores	47	10.5319	35	15.6571	6.5587	*
Difference in I Scores	47	10.3830	35	17.7714	19.0071	***
Difference in A Score	47	16.4468	35	10.1143	7.7193	**
Difference in S Scores	47	12.7021	35	16.9143	4.6998	*
Difference in E Scores	47	9.2979	35	12.4000	3.6613	
Difference in C Scores	47	11.3404	35	10.4000	.2789	
Iachan	19	11.3158	21	6.000	6.2854	*
Hexagon	34	2.7647	31	2.1290	7.1664	**

Note: *p<.05, ** p<.01, *** p<.001

CHAPTER V

Discussion

This research involved a double thrust, the Pre-Research Reliability Study and the Research Study. The purpose of this study was to investigate the relationship of type congruence to perceived ease of establishing rapport. These concepts were examined in the context of teacher-student relationships.

In the first section of the Discussion a summary of the Test-Retest Reliability Study is presented. The researcher discusses the findings associated with the theoretical models of Holland and Jung in the next two sections. Fourthly, a tentative theory of EER is postulated. A discussion of the limitations of research, and recommendations for future research is presented in sections five and six. In the final section the researcher provides a personal response to the research.

Test-Retest Summary

The intent of the preliminary Reliability Study was to consider the test-retest reliability of the MBTI and SDS. For this research, the main interest was the consistency of student preferences over time. The interval between test and retest periods varied from three to six weeks. For the MBTI, test-retest reliability coefficients for continuous scores (.76-.85) were somewhat higher than those for dichotomous results (.50-.71). In line with Myers' and McCaulley's (1985) discussion of test-retest reliabilities, changes in designation of original preference

occur when preference scores are low. This may account in part for lower reliability coefficients to be noted for dichotomous results. Generally, test-retest reliability results approximated those included in the MBTI manual. For the SDS, test-retest reliability coefficients ranged from .75 to .91 and were similar to those yielded for high school students, as summarized in the SDS Manual (Holland, 1985, 1987). Overall reliability results were consistent with those given in the MBTI and SDS Manuals. The reliability outcomes of this study were deemed adequate to proceed with this research.

Discussion of MBTI Results

Teacher Group and High and Low EER Student Groups (MBTI)

The Modal Teacher Type for this group was ISTJ, and the means for continuous preference scores were consistent with this type. The SJ temperament was the most frequent, with SP being the least frequent. Based on CAPT DATA, ISTJ is among the three most frequently-occurring types in junior high school teacher samples and the SJ temperament is the most frequent.

In Lawrence's (1993) discussion of the impact of teacher preferences on the classroom environment, he describes I, S, and J teachers as tending to prefer a quiet and orderly approach to classroom interactions. Teachers with a preference for T feel more comfortable dealing with the entire class as opposed to attending to individuals, their time often being spent on maintaining student attention on what they are saying or demonstrating. Teaching practices of those with SJ

preferences appear to include emphasis on facts, practical information, clear classroom expectations and structure.

For the full student sample, the most frequent two types were ENFP and ENTP. The NF temperament occurred most frequently with SJ being the least-preferred. The direction of the continuous preference scores, and the highest percentage associated with each dichotomous preference occurred on the E, N, T and P dimensions. When students were organized into high and low EER groups according to teacher perception, the two most frequent types remained ENFP and ENTP in both groups.

With respect to significant differences between high and low student EER groups, there was a greater percentage of Ns in the high EER group. Significant mean differences on the SN dimension indicated a greater orientation in the direction of N for the high EER group. In view of the teacher preference for Sensing orientation, the high EER group was also significantly different from the teacher group on the SN dimension in favour of Intuition. Although T preference was more frequent than F in both groups, significant mean differences on the TF dimension suggested a higher F orientation for the high EER group.

Perhaps the preferences of Intuition and Feeling associated with the high EER group can best be understood by considering the NF temperament that occurred most frequently in the high EER group. Research results revealed a significant relationship between levels of

EER and temperament. For the low EER group, SP was the most frequent and SJ, the dominant teacher temperament, was the least-occurring for both student groups.

With respect to the NF temperament, Keirsey and Bates (1984) describe the NF student as one who tends to be gifted in language, and has a natural talent for communicating and relating to both adults and peers. The NF students desire personal contact and affirmation of self by others. Competitive activities are not appealing to NFs, whereas opportunities for involvement in cooperative activities are welcomed. Being especially sensitive to potential conflict and rejection, they seek assurance of agreement among those surrounding them. Central to NFs is their search for a sense of identity which they seek to accomplish through "personalized acknowledgments" (p. 120).

As for the SP temperament, these students are often drawn to activities that encompass excitement, risk-taking, and opportunity to perform. Within a schedule they value changes and continual variety. Considering relationships, the SPs approach could be depicted as fraternal in nature. Loyalties are built and maintained among teammates. However, the presence of an authoritarian figure or the imposition of too much structure, as perceived by the SPs, may result in resistance.

Based on the attributes of SP students and SJ Teachers, the motivations that potentially influence their actions with others may come into conflict.

> SJ teachers can be even more put off by SP students who are interested in action and adventure, and who resist every effort to force "good study habits" into their repertoire. The SP students react to this disapproval by acting up, which further stimulates the teacher's disapproval and an unhealthy cycle is created—which the SPs always lose and, in the process, also often lose their formal education, since they solve the conflict by leaving school as soon as they can. (Keirsey & Bates, 1984, p. 160)

Such interactions might provide some explanation for the SP temperament being the most frequent in the low EER group. In contrast, the NF student who desires personal recognition and affirmation may, at the outset of the teacher-student relationship, work hard to meet the structure and expectations of the teacher. Therefore, the presence of more NFs in the high EER group is understandable.

On the JP dimension, significant mean differences between the teacher group and high and low EER groups were apparent. However, there was less discrepancy on this dimension between the high EER student group and the teacher group. Although not significant, the high EER group tended to show greater resemblance for teachers' outward orientation associated with a planning structure and bringing closure.

Temperament Theory

A major focus of the preceding section has highlighted descriptive differences between preference combinations. Temperament theory, in particular, provides meaningful discussion from which to consider teacher perceptions of students with whom they have experienced high and low levels of EER. According to Golay (1982), understanding student temperaments is an important aspect of both building relationships with students and facilitating their educational development. He uses the term "professional caring" which describes a kind of involvement that understands the attributes and motivations of the student. He emphasizes the following point as critical in establishing positive involvement with students.

> To the degree that the teacher responds in ways which are compatible with the student's personality, he will be perceived as benevolent. As he displays to students that he understands their needs for self-esteem, and he provides them with the opportunity to fulfill those needs, he is showing students that he cares enough to establish and maintain rapport with them. (p. 85, 86)

The intentional effort to extend understanding to the student in educational planning promotes the development of a climate which encourages greater cooperation and involvement of students in their learning process.

Levels of EER: Teacher-Student Dyad Similarity (MBTI)

When similarity scores were computed and arranged according to teacher perception of high and low EER, only one significant result emerged and that was on the JP dimension. There appeared to be greater congruence between teacher-student pairs on the JP dimension for higher versus lower EER groups. This significant finding was also apparent when similarity scores were arranged according to student perception of low, moderate, and high EER (Chi-Square and ANOVA Analyses).

From the preceding and in keeping with previously noted results, it would appear that greater similarity in terms of teacher-student orientation to the outside world would be associated with greater ease of establishing rapport. For the teacher-student relationship, the outside world consists of classroom structure and routines. It is therefore likely that preferences regarding degree of structure and flexibility necessary in organizing and carrying out learning activities could play an important role in influencing the way in which teachers and students interact and establish rapport. Yeakley's similarity scores emphasizing "type dynamics" rendered no significant findings when data for teacher-student dyads were organized according to EER, either by student or teacher perception. Some studies employing Yeakley's ideas for determining communication similarity provide support for use of his method (Yeakley, 1982, 1983). However, Yeakley (1985) notes that replications of his study designed to examine

differences in communication styles have not always rendered significant results. Consequently, he asserts a need for further research "aimed at finding out why differences in communication style make significant differences in some cases and not in others" (1985, p. 40).

Although there were no significant results using Yeakley's method, measuring similarity by considering the number of MBTI scales in common between teacher and student results showed significant findings. This outcome was noted when teacher-student pair data were organized according to student perception of EER, but was not significant according to teacher perception. In line with Yeakley's assertion, further research may be warranted to consider the appropriateness of various approaches to measuring similarity with respect to teacher-student relationships.

The previous discussion noted that when teachers were asked to describe their relationship with students in terms of high and low EER, a pattern of preferences resulted, suggesting specific motivations associated with temperament theory (Keirsey & Bates, 1984). The concept of type congruence by teacher perception of EER was generally not supported. However, as already alluded to, students with various temperament patterns may have varying levels of motivation and effort for meeting teacher expectations of this relationship. Since the theory of congruence is still tenable from student perception, one might be inclined to enquire, "Has sufficient attention been given in terms of

students' personal preferences? and "What impact does incongruity in personal preferences between teachers and students have on students' feelings and perceptions regarding their relationships?" In other words, "Does the educational process require students to make the greater accommodation as opposed to the system's adapting to meet student needs?" The preceding discussion is based on teacher-student perceptions of EER, using only one similarity scale. Further research is warranted to investigate these speculations.

Discussion of SDS Results

Teacher Group and High and Low EER Student Groups (SDS)

The order of the three highest preference means on the SDS scales was Social (S), Enterprising (E), and Investigative (I). If these three letters were used to represent a three-letter occupational code, then occupations associated with this type can be investigated. Employing Holland's (1985) Occupations Finder, careers associated with the SEI type suggest a range of leadership and teaching positions in a variety of educational and helping professions.

When student results were organized according to teacher perception of EER, the highest mean scores for both high and low student groups were on the Artistic scale. However, the second highest mean scores for high and low EER student groups were different. Employing Holland's Hexagon for interpretation, the resulting types of Social for the high EER group, and Realistic for the low EER group would be opposite in preference. With respect to these types, Holland

(1985) suggests that lack of success in school is likely a function, not only of "failure to achieve minimal skills, but also a failure in empathy or understanding, for teachers are largely Ss and dropouts are largely Rs" (p. 56).

Most of the mean scores on the high EER student group were somewhat higher than were those of the low EER group (exception, Realistic; high EER, 20.78, low EER, 22.7). This resulted in significant mean differences on four of the six dimensions between these groups. Holland (1985) states that profiles with higher scores on a number of scales may indicate a wide range of interests and involvement in activities. When EER group means were considered with teacher means, the high EER student group was significantly different from the low EER student group on Investigative and Conventional.

Gade, Hurlburt and Fuqua (1992) describe school environments as guided by teachers who are social in personality and emphasize investigative activities and projects. The Social type has a preference for interaction that would involve informing, training and enlightening others. The suggestion of focus on investigative activities leads to the development of an environment characterized by demands and opportunities in which rational, scholarly and analytical endeavours are encouraged. In view of the preceding, it is not surprising that students who appear to express a greater range of interest and involvement in activities, especially those stressing investigative

pursuits, are perceived by teachers as those with whom it is easier to establish rapport.

Following the same reasoning, a significantly lower mean on the Conventional scale for the low EER student group may suggest less readiness on the part of the student to conform to structured, systematized routines and prescribed plans. On the Social dimension, the teacher group was significantly different from both the high and low EER student groups. It is worthy of note that the high EER student mean was significantly higher on the scale in the direction of the teacher mean than was that of the low EER student group. Hence, the high EER student group showed a greater degree of similarity to the highest mean type of the teacher group. Other results suggested significant mean differences between teacher group and both high and low EER student groups. This was evident on the Enterprising scale, and appears consistent with the general role of the teacher which involves leadership skills, speaking abilities, and persuasive competencies in influencing others to attain specific goals.

Levels of EER: Teacher-Student Dyad Similarity (SDS)

When teacher-student dyads were organized into high and low EER groups by teacher perception, significant differences between these groups resulted on the Iachan, Hexagon, and Social dimensions. The direction of the means on these three similarity scales was consistent with the theoretical assertion that the greater the similarity in personal preferences, the greater the ease of establishing rapport.

When teacher-student dyads were sorted into high and low EER groups according to student perception, significant mean differences resulted on the Hexagon similarity scale. As with the analysis carried out based on teacher perception, the direction of the means on the similarity scale supported the association of greater EER with a higher level of congruence of dominant personality type (first letter-code). Compared to teacher perception of EER, significant differences were not found on the Social and Iachan similarity scales. However, the direction of the means on high, low, and moderate EER groups on these scales was consistent with the preceding notion regarding congruence and EER.

Both the Iachan and Hexagon methods for approaching similarity rendered significant results when dyadic congruence was considered in relation to EER. The limitation of these two methods was a loss of some data as a result of tied scores. The Social similarity scale provided for greater inclusion of data since the computation of continuous scores was not affected by ties, but depended on calculating the differences between individual teacher-student scores on the Social scale.

Summary of SDS Results

In general, it appears that when employing Holland's constructs a greater ease of establishing rapport in teacher-student relationships was associated with a higher degree of type congruence. Also, a lesser degree of this quality of relationship seemed to be related to a greater

discrepancy in teacher-student preferences. This was apparent when EER of the dyadic relationship was considered from both teacher and student perceptions.

According to Holland (1985), the usefulness of his theory has its beginnings in career assistance, and its application has been regarded as particularly valuable in facilitating career development. He also purports the benefit of using his concepts in areas involving interpersonal relationships. The results of this study lend some support to the application of Holland's concepts in the educational setting. Holland asserts that his theoretical ideas reinforce the notion of adapting teaching styles to student types and providing the opportunity within the curriculum for a full range of experiences that reflect inclusion of a variety of student preferences. Although the teaching profession requires adjustment of learning material and approaches when working with students, Holland contends that his theoretical concepts may provide specific and practical guidelines from which to carry out these activities.

Perceptions of High and Low EER Associated with ISTJ Teacher Types

With student data organized into high and low EER groups according to ISTJ teacher perception, some similarities emerged comparable to the patterns noted when the full student group was considered to overall teacher perception of EER. For instance, with the high EER group, the Modal Type remained ENFP with the NF

temperament appearing most frequently with fewer SJs and SPs occurring in this group. As well, the low EER group arranged by ISTJ teacher perception showed the same ordering in frequency of temperament patterns with SP occurring most often, followed by NT, NF and SJ.

The largest percentage shift of the low EER Group was noted on the ISTP type (12%-21%). For the high EER group, the biggest shift in individual type was also on the ISTP (5%-0%), with an absence of this type in this group. In view of the frequency of ISTP in the low EER group, it is this type that is most represented among other types with the SP temperament.

SP Temperament; ISTP Type

According to Keirsey and Bates (1984), ISTPs of all other types are more risk-taking, despite apparent consequences. Their desire for fast pace and excitement in daily living results in their finding some routine activities uninteresting. The expression "feel like it" often characterizes their personal impulse and approach to schedules.

In terms of school curriculum, ISTPs show minimal interest in clerical, interpretive, and scientific areas. Compared to other SPs, Keirsey and Bates (1984) contend that ISTPs will show outwardly the least amount of desire in their effort to learn in such areas. With respect to relationships, they prefer to communicate through action as opposed to relying on verbal skills. This minimal interest in communication may frequently be misunderstood by educators.

> Indeed this lack of interest in communication may be mistaken for what well-meaning but misguided medics and educators call "learning disability," or dyslexia, both preposterous notions. Let ISTPs get near a tool of any complexity and power and see how fast they pass up everybody in learning to use it and how precise their lexicon in talking of its features. (Keirsey & Bates, 1984, p. 201)

The relationship of the ISTP student to the ISTJ teacher is of particular interest. It is noteworthy that Keirsey and Bates (1984), in their description of ISTPs, discuss the resemblance of this type to ISTJs.

> We might think there would be some resemblance to the ISTJ, having as they do "IST" in common. But no, their behavior is antithetical in almost every dimension of comparison. One is pessimistic while the other optimistic; one is parental, the other fraternal; one saves, the other spends; one believes in rules, the other is instinctually insubordinate and recalcitrant to rules. (p. 203)

Based on their descriptions of the differences in motivation of these two types, it is not surprising to discover that the ISTP student was the Modal Type for the low EER group; also, that there were no ISTPs present in the high EER group.

In working with ISTPs and other SPs, Golay (1982) asserts a need for such students to have some flexibility within regular school routines. For example, it might prove beneficial upon completion of assigned tasks for SPs to have additional time in which they might pursue personal interests, seeking their own order of accomplishing things and finding enjoyment in having freedom to move. With respect to feedback, SPs seek praise for their impact on others, whether they are liked and whether their performance is liked. Providing SPs with opportunity to assume classroom roles, which solicit their desire for performing and incorporating their interest in risk and challenge, gives personal affirmation and maintains their involvement in the classroom arena.

Judging Preference: NJs

When continuous scales of the MBTI were considered, mean differences between high and low EER groups were found on the Judging-Perceiving dimensions. The mean of the high EER group was not as high in the direction of the Perceiving preference as was the mean for the low EER group. In addition, when ISTJ teacher-student dyads were considered in high and low EER groups, lesser differences between dyads on the JP scores appeared to be associated with higher EER. In keeping with the ISTJ teacher preference, the high EER appeared to show a greater Judging orientation as compared to the low EER students.

With respect to the JP dimension, it is interesting to note that of the four possible NJ types, three did not occur (INFJ, ENFJ, ENTJ) in the low EER group. In contrast, these three NJ types were present in the high EER group. According to Lawrence (1993), NJs prefer moderate to high structure with "serious" instruction and have flexibility as global or linear learners. The NJs enjoy being involved in selecting their goals and making plans to facilitate their accomplishment. According to Germaine (1987), NJs and SJs may be described as "non-identical twins", both maintaining structure by traditional and innovative means.

> NJs are anchored in an inner world of symbolic reality, just as the SJs are anchored in their inner world of sensate reality. And from those two different inner experiences (one time-bound, and one not) they (SJs and NJs) bring forth order and structures that relate to their respective cosmologies. (p. 68)

Given the nature of instruction and structure that may exist within an ISTJ classroom, based on Lawrence's and Germaine's description, it is conceivable that NJs would be more frequent in the high as opposed to the low EER group. In the ISTJ classroom the NJ preference combination provides an interesting addition and possible extension of Keirsey theory which highlights the SJ temperament.

Feeling Preference and High EER with ISTJ

In considering teacher-student dyads from ISTJ teacher perceptions of high and low EER, significant differences occurred on

the TF and JP dimensions (differences in TF and JP scores). As previously noted, lesser differences in teacher-student dyad results on the JP dimension appeared to be associated with high EER. In contrast, on the TF dimension, greater discrepancy in teacher-student scores appeared to be related to a higher level of EER. In view that all teachers in this final analysis were ISTJs, students perceived in the high EER category tended to have scores moving towards the Feeling as opposed to the Thinking preference. The Feeling preference encompasses such characteristics as cooperation, attending to relationships and accommodating others (Lawrence, 1993). Given this orientation, it seems reasonable to conjecture that students would be well-received by a variety of teacher types.

Affirming Opposing Preferences

To this point the MBTI and SDS results have been dealt with separately to consider the theoretical implications of each. However, within the analyses associated with the ISTJ teacher type, an interesting and significant finding emerged on one of the SDS similarity scales. When high and low EER teacher-student dyads were considered, six of the similarity scales used with Holland's theory rendered significant outcomes, supporting the association of higher congruence of teacher-student dyads with higher perception of EER. However, on the Artistic scale, the converse was the situation. Greater differences in teacher-student Artistic scale scores appeared to be associated with high EER as perceived by ISTJ teachers. The mean

Artistic result (x=16) for the ISTJ teacher was the lowest on the SDS scales. In contrast, the mean of high EER on Artistic was the highest mean (x=30) among the SDS scales.

The Artistic type is described by Holland (1973) as original and expressive, having artistic and imaginative abilities (acting, writing), and pursuing activities with freedom to create. This description appears to depict an opposite from the ISTJ type that finds comfort within a structure, and gives attention to practicalities and details, and generally seeks to preserve the status quo (Hirsh & Kummerow, 1989). In building relationships, Myers (1980) emphasizes the importance of, not only understanding our differences, but also "appreciating what is fine" (p. 132) in one another and communicating that appreciation.

In Fitzgerald's (1993) discussion of type development, she emphasizes the importance of "genuinely valuing both the gifts of the preferences that are opposite to your own and the people who exhibit those preferences" (p. 13). It may be that teachers' (ISTJ) recognition and admiration for students who exhibit particular qualities that appear to be opposite to their own (Artistic), provide a motivation in effort with respect to these relationships. Thus, when asked regarding their perceptions of the ease of establishing rapport, their responses are favourable. Myers (1987) contends that individuals who share common preferences and values also share common blind spots. A relationship encompassing opposite preferences has the potential for

increasing understanding, but also for experiencing the "joy" and "vitality" of apparent differences.

On Formulating a Theory of EER

The focus of this research was to examine type similarity and its relationship to ease of establishing rapport. The theoretical notion of personality congruence suggests that individuals who experience a high degree of similarity in personal preferences will experience greater ease in communication and in establishing rapport. The applications of Jungian theory using the MBTI, and Holland's constructs employing the SDS, rendered various results supporting the idea of congruence; yet, other outcomes appeared to suggest that there may be additional factors associated with how teachers and students may perceive EER in their relationship with one another.

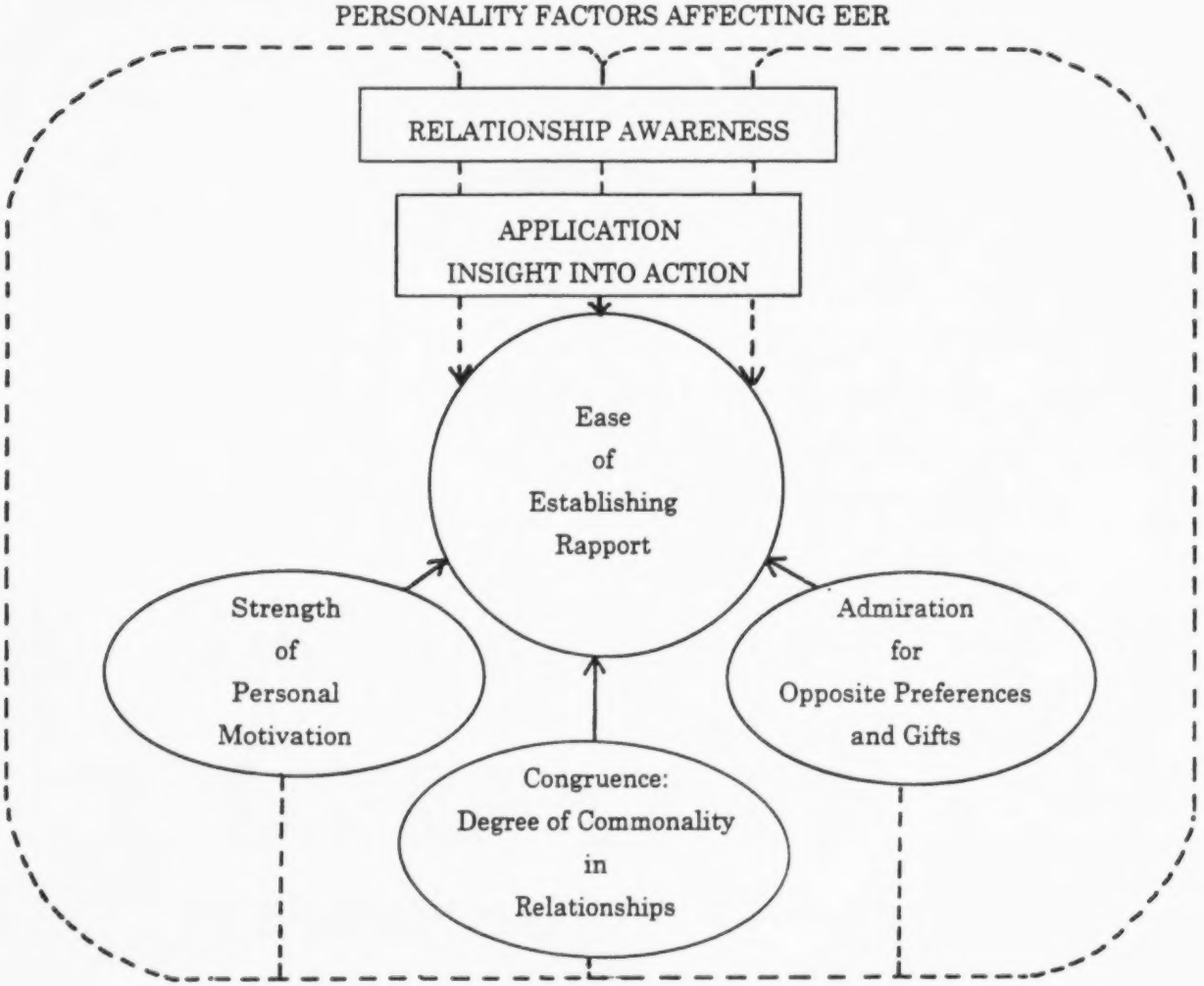
Holland's scales generally lent support for the congruence hypothesis from both teacher and student perceptions. The MBTI scales tended to provide more descriptive information regarding emerging patterns of preferences that resulted when gathered data were arranged according to high and low EER perceptions of teachers and students. This information was useful in describing personality characteristics and motivations associated with various preference combinations, and provided a means for explaining the dynamics of relationship with reference to EER. In addition, when data related to the Modal Teacher Type were considered, it was noted on one personality dimension that greater discrepancy in that preference

seemed to be associated with greater EER. In this case, it was hypothesized that recognition and admiration of an opposite may have contributed to a positive evaluation of EER. It is also noteworthy that in this study teacher and student perceptions regarding EER did not always render similar results. For instance, in one situation students' perception of the teacher-student dyad yielded outcomes supporting the congruence hypothesis. On the same scale, by teacher perception, this hypothesis was not supported.

The information of the preceding summary might give rise to the formulation of a tentative theory regarding Ease of Establishing Rapport. Figure 2 (p. 106) incorporates sub-entities that may affect the ease of establishing rapport. These include: Strength of Personal Motivation; Congruence: Degree of Commonality; Admiration for Opposite Preferences and Gifts. Basic to these is Relationship Awareness; that is, the insights that individuals possess regarding aspects of personality and their impact on relationship dynamics. Relationship Awareness in turn sets the stage for practical application of type concepts for enhancing relationships and affirming individuals in an educational setting.

The primary focus of the teacher-student relationship is to facilitate students' learning. Murphy (1989) and Holland (1985) purport that awareness and knowledge of teacher and student preferences have implications for instructional relationship. Teachers' being able to identify their preferences provides them opportunity to

A Personality Approach to Understanding and Enhancing EER



- - - > Known effects (awareness) of personality factors influencing EER

→ Unknown effects of personality factors influencing EER

Figure 2: Personality Factors Affecting Ease of Establishing Rapport

understand and assess the way they relate to students and approach teaching in the classroom. Such insights give information regarding the strengths and potential "blind spots" that emerge when attention is given to specific combinations of preferences. Further, type concepts may assist teachers when considering the impact their relationship may have on students who share common and varying preferences. According to Lawrence (1993), providing the "right balance" (p. 20) between supporting and challenging the student is an important consideration in planning instruction. If educators are aware of the characteristics and strengths of various student preferences and types, then instruction can be more effective in meeting student needs.

The preceding discussion underlines the potential relevance for teacher training and professional development in the areas of both awareness and application of type concepts. In addition, teaching type concepts to parents and students as part of facilitating students' personal development has been encouraged in the literature (Farris, 1991; Holland, 1985; Meisgeier & Meisgeier, 1989; Wriths & Bowman-Kruhm, 1992). Perhaps the greatest benefit of type theories and assessment instruments associated with these theories is the opportunity they afford individuals to express feelings and thoughts regarding themselves and their relationships with others. An important consideration of theories defining individual differences is that they provide a limited framework for understanding human functioning. As Murphy (1992) states, "defining differences can

simplify complex behavior and seem to diminish individual complexity" (p. 147). For this reason, she stresses the importance of considering the many aspects of individuals' development and their environments as "windows" for enhancing relationships (p. 148).

Limitations

With respect to the Pre-Research Reliability and the Research Studies, grades 8 and 9 students who participated were enrolled in regular curriculum programs. Some of the previously-discussed implications highlight the potential benefits of using type concepts for adapting teaching approaches to students' learning needs. However, students identified as requiring special funding or support for particular learning needs were not included in the sample.

In both teacher and student samples, all types were represented, yet some types were more represented than others. The findings may be limited to the predominant types in the sample, and therefore not equally meaningful for the less-frequent types.

For this study, self-report instruments were used in gathering data. Myers and McCaulley (1985) note that a possible limitation with any self-report instrument is that the accuracy of results depends to some degree on how genuinely questions have been answered. In interpreting results of personality measures, they suggest submitting reported types to participants' judgment, inviting them to evaluate accuracy of test results.

Holland's Hexagonal Model and Iachan's Method for determining the degree of congruence cannot be applied when there are tied scores in the first-letter code (Hexagon) or first through third-letter codes (Iachan). As a result of some tied scores, the number of teacher-student dyads considered was decreased as compared to other similarity scores.

Recommendations for Future Research

1. The MMTIC was designed to be used with students from grades 2 through 8. Given the reading level of the Myers-Briggs, the likelihood for application and overlap of these two instruments designed to measure the same theoretical constructs is possible. Such research questions might be entertained:

- Do these instruments, when completed by students at the grades 8 and 9 levels, render congruent results?
- Which of these instruments demonstrates greater reliability over time with these students?

2. Specific studies considering EER and the concept of type congruence could be investigated using different populations of students; for example, student groups experiencing learning or behavioural difficulties, or groups of students enrolled in special education or academic programs for the gifted.

3. For the MBTI, various approaches for considering dyadic similarity focussing on "type dynamics" might be undertaken in addition to employing Yeakley's method. For example, research might

be carried out with students whose dominant types are the same or different from their teacher types. The degree of teacher-student similarity might be investigated in relation to perceptions of EER, achievement, school satisfaction, and attrition.

4. Practical application and further elaboration of Holland's theory emphasizing educational implications for teacher-student relationships might be areas for research.

5. Continuing research to obtain samples of students from the grades 8 and 9 levels might be useful in setting a base from which to detect differences in distributions between varying levels of schooling and adult groups.

6. It is noteworthy that boys were generally underrepresented in the high EER group, whereas in the low EER group girls appeared to be underrepresented. There was also a greater number of females than males in the teacher group. Further research may be warranted to consider the relationship of gender differences and EER in teacher-student relationships.

7. Permitting students to validate their types would provide means for clarifying tied scores. Investigating the degree of congruence between students' perception of their "true type" and their reported type would give some indication as to the degree of comparability of type perceptions and reported scores.

8. Research might also be carried out which considers the developmental nature of both Holland's and Jung's theoretical types.

This might be accomplished by considering possible changes in student type over extended periods of time.

9. Interviews might be carried out to investigate how teachers adapt for students for whom they have indicated low EER and are low in type similarity; and conversely, teachers who experience high EER with students with whom they have high type similarity. A similar approach might also be taken, this time based on students' perceptions of EER and their experience with teachers of their same and opposite types.

10. Teacher education sessions might be designed to instruct teachers in the application of type concepts, for both group and individual instructional planning. The impact of different kinds of instructional presentations incorporating type concepts might be evaluated by examining student responses to activities, such as their apparent preferences for a particular learning task.

A Personal Response: Insight and Commitment

Teacher-student relationships are the arena in which educational goals can be realized. The ease of relating that is experienced within these relationships is central to the instructional activities of developing and adapting program plans and strategies. The results of this research provide a basis from which to consider the ease with which individuals establish rapport with one another. As previously asserted, the awareness of such personality implications sets the stage for applications of these insights in our daily personal and professional

lives. However, awareness in itself is insufficient to ensure subsequent action or effective use of these concepts.

In order for such insights to render positive outcomes within a relationship, the existence of a quality of relationship that transcends both our personal similarities and differences is required. From a professional perspective, I believe this quality has its beginnings in the teacher's genuine desire to know students, and in turn a willingness to be known. As educators, we sometimes feel more comfortable and less vulnerable when we attempt to limit the instructional process to the content of a specific area of study. Yet, it is the commitment of personal input into curriculum areas, whether this be by the expression of a smile, by an invitation for students' viewpoints, or by the sharing of our personal response that provides the means by which trust is introduced and fostered within the instructional relationship. Implicit within such interactions is an attitude of acceptance which welcomes and affirms the personal diversity of students in the classroom setting. As educators take the opportunity afforded them in the classroom situation, of entering into and achieving a greater understanding of students' worlds, then the possibility of effecting positive change both in terms of students' educational growth, and educators' professional development can be increased.

Perhaps this quality of relationship, if adopted by educators in instructional activities might best be described as "acts of caring." Through such acts the relationship becomes a place in which it is safe

to disclose ideas and concerns, explore new thought about learning and interacting without fear of judgement, and a context in which such insights are applied in both personal and academic pursuits. Personality research provides a vehicle for understanding relationships; however, commitment to acts of caring coupled with such insight, can render positive outcomes for the instructional relationship.

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APPENDIX A-1

CAPT-MBTI Data Bank, Teachers: Middle and Junior High School

ISTJ N =126 % = 11.17	ISFJ N = 138 % = 12.23	INFJ N = 56 % = 4.96	INTJ N = 51 % = 4.52	N % E 601 53.28 I 527 46.72 S 622 55.14 T 446 39.54 F 682 60.46 J 741 65.69 P 387 34.31
ISTP N = 26 % = 2.30	ISFP N = 36 % = 3.19	INFP N = 67 % = 5.94	INTP N = 27 % = 2.39	
ESTP N = 20 % = 1.77	ESFP N = 43 % = 3.81	ENFP N = 124 % = 10.99	ENTP N = 44 % = 3.90	NF335 29.70 NT171 15.16 SJ 497 44.06 SP125 11.08
ESTJ N = 103 % = 9.13	ESFJ N = 130 % = 11.52	ENFJ N = 88 % = 7.80	ENTJ N = 49 % = 4.34	

APPENDIX B-1 Teacher Information Letter

EDMONTON PUBLIC SCHOOLS

Dear Teachers:

Within the school setting the relationships that develop between teachers and students have been regarded as important with respect to their potential influence on classroom climate and overall student learning. Currently, I am completing my Ph.D. program at the University of Alberta under the supervision of Dr. George Fitzsimmons. The purpose of the research study I am undertaking is to provide further insight into both understanding and enhancing the quality of the teacher-student relationship. This research will be carried out by identifying the individual preferences of teachers and students and examining their perceptions of the quality of their relationship.

The identification of individual preferences will be determined by having both teachers and students complete two pencil and paper questionnaires: the Myers-Briggs Type Indicator (MBTI) and the Self-Directed Search (SDS). Responses to the MBTI questionnaire reflect how individuals prefer to focus their attention, gather information, make decisions and approach life in general. The SDS provides some indication as to individuals' vocational interests and preferences. In addition, both teachers and students will be asked to describe their relationships as having either a high or low ease of establishing rapport.

I would very much appreciate your participation in this study. Your responses on the questionnaires will remain confidential and anonymous. In addition, you have the right to withdraw from the study at any time. I will be available to respond to any inquiries that you may have regarding the results of the study. I am planning to procede with my research during January and February of 1994. I will be contacting you in the near future regarding your participation in this study. Thank-you for your cooperation.

Sincerely,

Bill Morrison (Ph.D. Candidate)

CENTRE FOR EDUCATION
One Kingsway
Edmonton, Alberta T5H 4G9 Telephone (403) 429-8000 / 429-8337

APPENDIX B-2 Student Permission Letter (Reliability Study)

EDMONTON PUBLIC SCHOOLS

Dear Parents/Guardians:

Within the school setting the relationships that develop between teachers and students have been regarded as important with respect to their potential influence on classroom climate and overall student learning. Currently, I am completing my Ph.D. program at the University of Alberta under the supervision of Dr. George Fitzsimmons. The purpose of the research study I am undertaking is to provide further insight into both understanding and enhancing the quality of the teacher-student relationship. This research will be carried out by identifying the individual preferences of teachers and students.

The identification of individual preferences will be determined by having both teachers and students complete two pencil and paper questionnaires: the Myers-Briggs Type Indicator (MBTI) and the Self-Directed Search (SDS). Responses to the MBTI questionnaire reflect how students prefer to focus their attention, gather information, make decisions and approach life in general. The SDS provides some indication as to students' vocational interests and preferences.

In order to undertake this research it will be necessary to consider the consistency of student responses on the MBTI and the SDS over a short period of time. To accomplish this, two classes of students will be needed to complete the MBTI and SDS questionnaires at the beginning and the end of a two-week interval.

With your permission I would like to ask your child to participate in this initial investigation which will take place towards the end of the first term. His/her responses will remain confidential and anonymous. In addition, your child has the right to withdraw from the study at any time. I will be available to respond to any inquiries that you or your child may have regarding the results of this study. In order to have your child participate, please complete the form below and have your child return it to his/her teacher. Thank-you for your cooperation.

Sincerely,

Bill Morrison (Ph.D. Candidate)

_____has my permission to participate in the research study conducted by Mr. Bill Morrison. I am aware of the various aspects of this study as explained in the letter from Mr. Morrison.

Signature of parent/guardian: _____

Date: _____

CENTRE FOR EDUCATION
One Kingsway
Edmonton, Alberta T5H 4G9 Telephone 403: 429-8000 / 429-8337

APPENDIX B-3 Student Permission Letter (Research Study)

EDMONTON PUBLIC SCHOOLS

Dear Parents/Guardians:

Within the school setting the relationships that develop between teachers and students have been regarded as important with respect to their potential influence on classroom climate and overall student learning. Currently, I am completing my Ph.D. program at the University of Alberta under the supervision of Dr. George Fitzsimmons. The purpose of the research study I am undertaking is to provide further insight into both understanding and enhancing the quality of the teacher-student relationship. This research will be carried out by identifying the individual preferences of teachers and students and examining their perceptions of the quality of their relationship.

The identification of individual preferences will be determined by having both teachers and students complete two pencil and paper questionnaires: the Myers-Briggs Type Indicator (MBTI) and the Self-Directed Search (SDS). Responses to the MBTI questionnaire reflect how students prefer to focus their attention, gather information, make decisions and approach life in general. The SDS provides some indication as to students' vocational interests and preferences. In addition, both teachers and students will be asked to describe their relationships as having either a high or low ease of establishing rapport.

With your permission I would like to ask your child to participate in this study. His/her responses will remain confidential and anonymous. In addition, your child has the right to withdraw from the study at any time. I will be available to respond to any inquiries that you or your child may have regarding the results of this study. I am planning to procede with the study during January and February of 1994. In order to have your child participate, please complete the form below and have your child return it to his/her teacher. Thank-you for your cooperation.

Sincerely,

Bill Morrison (Ph.D. Candidate)

_____ has my permission to participate in the research study conducted by Mr. Bill Morrison. I am aware of the various aspects of this study as explained in the letter from Mr. Morrison.

Signature of parent/guardian: _____

Date: _____

APPENDIX C-1 TSRD for Teacher

Student-Teacher Relationships

Over the course of the school year, teachers develop relationships with students in which both ease and adjustment in relating with one another may be experienced. Consider the following statements describing the quality of "Ease of Establishing Rapport" that may exist in some of the relationships you have established with your students.

Ease of Establishing Rapport is ...

- finding common ground in areas of interest.
- having similar views of what is important and of value.
- experiencing ease and accuracy in communication.
- agreeing and cooperating in reaching common goals.
- having a sense of support within the relationship.
- being understood and understanding one another.
- having similar approaches in problem-solving and decision making.
- experiencing natural and spontaneous interaction.

Please complete the following for each core subject you teach at the grade 8 and 9 level.

Think for a moment about those relationships with students which you would describe as having a high level of ease of establishing rapport and those relationships having a low level of this quality of relationship. In the spaces below please write the first and last names of six students with whom you have experienced a high and low level of "Ease of Establishing Rapport." For the purpose of this study please do not include the names of students presently receiving special district funding.

CLASS # 1 _____ SUBJECT AREA _____

Higher Ease of Relationship	Lower Ease of Relationship
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____

APPENDIX C-2 TSRD for Student

Student-Teacher Relationships

Ease of Establishing Rapport is ...

- finding common ground in areas of interest.
- having similar views of what is important and of value.
- experiencing ease and accuracy in communication.
- agreeing and cooperating in reaching common goals.
- having a sense of support within the relationships.
- being understood and understanding one another.
- having similar approaches in problem-solving and decision making.
- experiencing natural and spontaneous interaction.

Think for a moment about those relationships with teachers which you would describe as having a **high level of ease of establishing rapport** and those relationships having a low level of this quality of relationship. In the spaces below please indicate with whom you have experienced a high and low level of "ease of establishing rapport."

Subject Teacher	Higher Ease of Establishing Rapport	Lower Ease of Establishing Rapport
Science		
Math		
Social Studies		
Language Arts		
Health		
Options		